Understanding Patient Aggression: An Experimental Study of Psychiatric Nurses' Attributions For Patient Aggression and Their Relationship To Staff Well-Being

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ABSTRACT

Purpose of Study: Research on psychiatric nurses' attributions about patient aggression has so far focussed on attributions made at one point in time in response to one stimulus (vignette or real account of patient aggression). To date, no research has been conducted on how new information influences attributions made; on investigating differences in attributions in different settings; and there is inconsistent evidence regarding the impact of previous exposure to aggression. This research therefore seeks to rectify some of these gaps. This study will examine the impact of new information; the effect of incident setting; and previous exposure to aggression upon attributions made by psychiatric nurses about patient aggression. Investigation is also made into further examining the relationships between attributions, previous exposure to aggression, general health, and burnout; and how these relate to nurses' acceptance or avoidance of their distressing experiences.

Methodology: A mixed design was employed. A repeated measures design tested the effect of new information (history of aggression, diagnosis of schizophrenia, and substance misuse) upon attributions of locus, control, and stability, measured on a seven-point scale. The experimental stimulus was a vignette. Each participant was randomly assigned one vignette depicting an incident of aggression set either in a work or non-work setting (independent samples design). Five questionnaires were also completed: the General Health Questionnaire, the Acceptance and Action Questionnaire, the Maslach Burnout Inventory, the Exposure to Aggression and Violence Scale, and the Impact of Patient Aggression upon Carers Scale. Attributions were correlated with these measures.

Results: A significant effect of new information about history of aggression and diagnosis of schizophrenia was found for attributions of control, but not locus or stability. Locus and stability attributions were affected by the incident setting. No effect of previous exposure to aggression was found on attributions. Several significant correlations were detected. The measure of nurses' acceptance or avoidance of distressing experiences correlated more frequently with the other measures in comparison to attribution ratings.

Conclusions: The impact of new information was not as large as expected. This may be related to methodological issues but consideration is given to other explanations. Calls for nurse training to include consideration of environmental and personal influences (including attitudes and self-awareness) are outlined.

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CHAPTER 1

INTRODUCTION

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1.1 Overview

In recent years, there has been an increasing emphasis on safety at work and an intolerance of any form of aggression. Within the NHS this has taken the form of the NHS Zero Tolerance campaign which was superseded in 2003 by the NHS Security Management Service (SMS).

In explaining the aims, objectives and model of the SMS, the strategy document "*A Professional Approach to Managing Security in the NHS*" emphasises a commitment to delivering a secure environment that allows the delivery of the "highest possible standards of clinical care" (NHS Counter Fraud and Security Management Service, 2003). An urgent requirement for protection from violence is called for to enable NHS staff to feel able and secure to deliver this highest standard of clinical care. Interestingly, the document also highlights the responsibility of patients themselves to "respect and value a service that they rely on".

A subsequent SMS document *"Promoting Safer and Therapeutic Services: Implementing the National Syllabus in Mental Health and Learning Disability Services"* reported that in the year 2004/2005 a total of 43,301 physical assaults were reported in the areas of mental health and learning disability services (NHS Counter Fraud and Security Management Service, 2005). It was also stated that this figure is considerably higher than those reported in other areas of the NHS. It should be borne in mind that although this is already an exceedingly high figure, it does not include reports

of verbal aggression and intimidation. The potential detrimental impact of these forms of aggression upon NHS staff should not be discounted.

Statistics for aggression and violence for the local area in which this study is based are now more widely available with the introduction of an electronic Adverse Incident Management (AIM) system. Data obtained from NHS Tayside (2007) relating to the Primary Care Division under which the Mental Health Directorate is subsumed revealed that for the one-month period of February 2006 a total of 42 incidents of violence and aggression were reported within the Mental Health Directorate. Proportionally this represents 27% of all incidents of violence and aggression within NHS Tayside, which is the largest contribution of any single directorate. For the one-month period in March 2006 this figure was 44. These figures represent a notable increase since the period October to November 2005 where 19 incidents of this type were reported (NHS Tayside, 2006). Unfortunately more recent and consecutive statistics were not available at the time of writing.

As the 2005 SMS document explicitly states, the origins of aggression and violence are multi-factorial. Underlying patient pathology is only one factor in the cause of such behaviour. Just as the causes of aggression are complex, the impact of aggression upon NHS staff is also complex and multi-factorial: the same incident could affect two people in different ways and the impact would be dependent upon a variety of factors, which shall now be considered.

The information presented here is based largely on literature reviews of electronic databases including PsychINFO (1985 to present), CINAHL – Cumulative Index to Nursing and Allied Health Literature (1982 to present), and MEDLINE (R) (1996 to present). Keywords included: aggression, violence, mental health, patient aggression, psychiatric patients, impact on nurses, attributions, beliefs, and experiences.[1]

1.2 Definition of aggression

It is evident from the literature in the area of patient aggression that there are differences in the conceptualisation and definition of aggression and associated terms, such as assault and violence (Maguire & Ryan, 2007). Some studies refer to the term violence (defining this as requiring the use of a weapon in a physical encounter with someone other than a spouse: Swanson, 1994) and some refer to the term aggression as including both physical and verbal attacks (Chen *et al.*, 2005). There is a wide variation in the potential severity and impact of these actions. Irwin (2006) and Maguire and Ryan (2007) highlighted this issue and noted that inconsistencies in definition and measurement prevent researchers and managers from gaining a truly accurate perception of the prevalence of patient aggression.

In order to minimise any potential confusion the present study shall only make use of the term "patient aggression", which shall be taken to include both physical and verbal attacks of a threatened or actual nature. Although this remains a broad use of the term, the aim is to simplify the understanding of the term rather than to use it to comment on prevalence rates.

[1] This does not represent an exhaustive list of search terms, rather it represents the most commonly used search terms.

1.3 Risk Factors for Aggression

Research seeking to investigate and identify risk factors for patient aggression is widespread and has met with considerable success. However this information does not necessarily enable us to accurately predict which psychiatric patients will show aggressive behaviour (Duxbury, 2002; Scott & Resnick, 2006). Research has been unable to show many solid linear relationships between any one risk factor and the occurrence of aggression, therefore awareness of the interaction of certain variables is of vital importance (Webster *et al.*, 1997; Secker *et al.*, 2004). Disentangling these interactions is, however, a very difficult task and it is important to have an understanding of some of the factors found to be related to aggression committed by psychiatric patients. These factors shall be discussed below and form the foundation of some keys aspects of the present study.

1.3.1 Demographic factors

It is a well established finding that within the general population, aggression is more common amongst men than it is in women (Tardiff & Sweillam, 1980). Scott and Resnick (2006) reported that the discrepancy between male and female aggression appears to reduce when the population being considered is people with mental disorders rather than the general population. It appears however that this is not universally accepted as some studies do report that the majority of patient aggression comes from male patients, both in general and psychiatric hospital settings (Lanza, 1983; Zernicke & Sharpe, 1998).

In examining the type of aggression that is shown by male and female psychiatric patients, two studies have reported that aggression from female psychiatric patients is more likely to be targeted towards family members or themselves, whereas male aggression is more likely to be targeted towards others and result in arrest and medical treatment (Wynn & Brarlid, 1998; Monahan *et al.*, 2001). In considering the victims of patient aggression, Carmel and Hunter (1989) reported that male nurses were twice as likely to be injured during an incident of patient aggression than female nurses.

Age at first incident of aggression is associated with a greater likelihood of future aggression (Steadman *et al.*, 1994; Swanson, 1994; Lattimore *et al.*, 1995). Indeed age of first aggression is an item in the HCR-20, a widely used historical and clinical risk assessment tool for assessing risk of violence (Webster *et al.*, 1997). Research evidence has also shown that this trend also holds for psychiatric patients who act aggressively (Chen *et al.*, 2005; Ruesch *et al.*, 2003; Tardiff & Sweillam, 1982). Zernicke & Sharpe (1998) reported that the typical age range for aggressive patients was between 20 and 39 years. Swanson *et al.* (1990) specified that 7.3% of participants reporting aggression were aged between 18 and 29-years, 3.6% were aged between 30 and 44-years, 1.2% were aged between 45 and 64-years old, and less than 1% were aged 65 or above.

Although this trend is now well established within the literature, ambiguity remains as to whether or not there were aggressive incidents that were not reported. For example, the local statistics on the incidence of violence and aggression reported that aggression within the care of the elderly directorate was higher in the month of March 2006 than it

was in the mental health directorate, with 65 incidents in care of the elderly versus 44 incidents in mental health (NHS Tayside, 2006).

Socioeconomic status has also been investigated. Borum *et al.* (1996) reported that people who behave aggressively are more likely to be from a lower socioeconomic status than those who do not behave in this way. However, Silver *et al.* (1999) specified that coming from an area of concentrated poverty was more predictive of risk than examining the socioeconomic status of an individual. Not all people from low income brackets are aggressive, but aggressive behaviour is more common amongst people from specific areas of deprivation. Thirty percent of the local area in which this study is set is characterised by multiple sources of deprivation, most notably education and income (Scottish Executive, 2006) and would be considered by Silver *et al.* (1999) as "concentrated areas of poverty". These areas of multiple deprivation are amongst the highest levels of deprivation in Scotland (Scottish Executive, 2006).

Difficulties in gaining and sustaining employment are also linked with deprivation as well as the risk of aggression and violence (Webster *et al.*, 1997). When assessing risk for aggression by individuals with and without mental health problems, a review of employment history should be undertaken with specific reference to the number of periods of employment, the length of time each period of employment has lasted, and the reasons for the ending of employment. Aggression is more common amongst people who have had many short periods of employment (Harris *et al.*, 1993; Scott & Resnick, 2006) or who have been dismissed from work (Catalano *et al.*, 1993).

1.3.2 Previous History of Aggression

The best single predictor of aggressive behaviour is a past history of aggressive behaviour (Klassen & O'Conner, 1988; McNeil, 1998; Gutheil & Appelbaum, 2000; Monahan *et al.*, 2001). This relationship has been found to exist in offenders with and without mental health problems (Menzies & Webster, 1995). It is consistently recommended that when assessing risk for future aggression historical aggression is explicitly assessed (Webster *et al.*, 1997; Monahan *et al.*, 2001). Historical aggression includes both adult and juvenile criminal records as well as less formally recorded juvenile delinquency (Melton *et al.*, 1997).

The MacArthur Study of Mental Disorder and Violence conducted in the United States by Monahan *et al.* (2001) provides an excellent illustration of the link between past aggression and future aggression. In this study, assessment of prior violence included consideration of the methods of assessment: recent violence (which may or may not have resulted in police involvement) (self-reported), type and frequency of prior arrests (self-reported), violence that precipitated admission to hospital (review of admission notes), and official criminal records including violence towards objects or property as well as other people. In their sample of 939 mental health in-patients from three sites, 16.4% had been violent in the preceding two months, 8.2% of admissions were at least partially precipitated by violence, 50.3% had been arrested at least once since the age of fifteen (36.8% had been arrested at least three times), and 21.5% of those arrested had targeted other people during their assault. Highly significant proportions (i.e. a minimum of 58%) of the sample went on to become violent again in the one year period

following their discharge from hospital (data which was corroborated by relatives and official records).

Monahan *et al.* (2001) concluded that history of aggression is highly predictive of aggression following discharge from an in-patient psychiatric ward, no matter what the method of reporting. However, there are cultural differences between the United States and the United Kingdom in terms of prevalence of aggression within society. The use of weapons is more common in the USA because the controls on gun ownership are less restrictive than in the UK. However, the use of weapons as tools of crime in the UK is on the increase (Home Office, 2007). The use of weapons increases risk (Scott & Resnick, 2006). The conclusions of Monahan *et al.* (2001) are however still seen to be applicable to the present study because of the way in which they highlight history of aggression as a key risk factor for future aggression.

1.3.3 Psychiatric Diagnosis

Numerous studies have reported that in psychiatric patients who show aggression, the most common diagnosis is one of schizophrenia (Chen *et al.*, 2005; Grassi *et al.*, 2001; Saverimuttu & Lowe, 2000; Tam *et al.*, 1996; Noble & Rodger, 1989; Lanza, 1983; Tardiff & Sweillam, 1982[2]). However, not all people with schizophrenia are aggressive. Swanson *et al.* (2006) describe aggression from people with schizophrenia as uncommon, yet problematic. Hiday (2006) highlights some of the problems in this area by drawing attention to the tendency of most researchers to report relative risk rather than attributable risk. Relative risk refers to the risk of aggression posed by

[2] This is not an exhaustive list.

individuals with psychiatric disorders in comparison to the general population. Attributable risk refers to the proportion of aggression within society that is caused by people with psychiatric disorders. Unfortunately, where serious crimes are committed by people with psychiatric disorders, there tends to be a high public profile associated with the case, which serves to feed stigma and misconceptions regarding the risks associated with such groups.

With these caveats in mind, there is a strong evidence base suggesting that the acute phase of psychiatric illness carries a greater risk of patient aggression (Monahan, 1997). Empirical studies have shown that symptoms of acute psychosis are a common precipitant of patient aggression (Tardiff, 1984; Noble & Rodger, 1989; Monahan, 1992; Cheung *et al.*, 1997; Gillig *et al.*, 1998; Flannery *et al.*, 2006; Swanson *et al.*, 2006). However within this literature there is some inconsistency, which may partly be explained by uncontrollable sampling differences that result from demographic factors that have already been discussed, and by the time period studied, diagnosis and stage of treatment (Junginger & McGuire, 2004).

Swanson *et al.* (2006) report that certain clusters of symptoms increase risk (such as paranoia) and some decrease risk (such as social withdrawal). Therefore the types of symptoms that are present in an acute phase of psychiatric illness must be considered when making judgements about the risk of aggression. Rasmussen *et al.*, (1995) and Abushas'leh and Abu-Akel (2006) reported that positive and negative symptomatology did not differentiate aggressive and non-aggressive people with schizophrenia whereas Cheung *et al.* (1997) found that people with schizophrenia who were aggressive were

experiencing a greater range of symptoms to a greater degree than those who were not aggressive. Abushas'leh and Abu-Akel (2006) reported that in their sample, people with schizophrenia who were aggressive showed higher levels of hostility than those who were not aggressive.

Zernicke and Sharpe (1998) found that the majority of patient aggression occurs within the first two days of hospital admission and Bowers *et al.* (2007) reported that aggressive incidents were more likely to occur during and after periods where there have been high numbers of male patients admitted into acute psychiatric wards. Similar findings have been reported by Fottrell (1980), Katz and Kirkland (1990), and Nijman *et al.* (1997). Patients admitted under an involuntary detention order are more likely to be aggressive (Durivage, 1989; Owen *et al.*, 1998; Delaney *et al.*, 2001; Nijman *et al.*, 2005).

Research has specifically focussed upon the presence of delusions and hallucinations and it has been reported that aggression is more likely to be specifically targeted towards people who are associated with delusional beliefs (Swanson *et al.*, 2006). However, subsequent research has suggested that the presence of delusional beliefs (irrespective of content) is not in itself a predictor of aggression (Monahan *et al.*, 2001; Junginger & McGuire, 2004), but when delusional beliefs evoke an emotional response in the patient (for example, fear, anger, or sadness) the risk of aggression does increase (Appelbaum *et al.*, 1999). Monahan *et al.* (2001) reported that 7.4% of their sample of aggressive incidents were preceded by the aggressor having delusional thoughts at the time of the incident and a further 5.2% reported auditory hallucinations at the time of

the incident. Haggard-Grann *et al.* (2006) found an increased risk for aggression where the patient had experienced hallucinations in the day preceding the aggression. Monahan *et al.* (2001) concluded that there was a relationship between command hallucinations that directed the patient to commit violent acts and the increased likelihood of violent acts occurring in the following year. Where command hallucinations did not direct the patient to act in a violent manner, there was no relationship with future violence. McNeil *et al.* (2000) reported a similar increased risk of aggression with command hallucinations when demographic factors, history of substance misuse and social desirability response biases were controlled for. However, this literature is also characterised by inconsistency. Rudnick (1999) conducted a review of seven controlled studies and reported that there was no evidence of a positive relationship.

Junginger and McGuire (2004) discuss in detail the relationship between delusions and hallucinations, and aggressive behaviour. They do not challenge the link that has been described above – delusions and hallucinations do serve to motivate aggressive behaviour, but such "psychotic motivation" for aggression does not necessarily translate into actual incidents of aggression. Clearly the relationship is more complex. Junginger and McGuire also helpfully discuss how differences in research methodologies hamper the identification of the relationship in more detail. They note that few research studies ask perpetrators of aggression to explain why they acted in such a way, and most focus on the statistical detection of relationships. They suggest that assessment of risk takes account of the justification for aggression given by the seriously mentally unwell perpetrators of aggression themselves.

Other psychiatric disorders that have been found to increase the risk of patient aggression include depression and bipolar disorder. Under certain circumstances, a person with depression may be at risk of behaving aggressively either towards themselves, or others if they feel particularly threatened or low (Scott & Resnick, 2006). Similarly patients who are in a manic phase of their illness present an increased risk of aggression, especially if they are subject to restraint (Tardiff & Sweillam, 1980).

1.3.4 Personality Traits

Patients with a diagnosis of Personality Disorder are under-represented in studies investigating diagnosis and patient aggression (Durivage, 1989). This could be due to efforts to keep patients with a primary diagnosis of personality disorder out of hospital (Fottrell, 1980) because of the degree of disorder that such individuals can create without clear treatment options. It is, however, difficult to separate this matter clearly as a considerable proportion of patients will have co-morbid diagnoses including for example, schizophrenia and personality disorder (Durivage, 1989). The exception is a diagnosis of anti-social personality disorder, which is specifically correlated particularly highly with risk of aggression (Monahan *et al.*, 2001).

Individuals with certain personality traits (not necessarily with a diagnosis of personality disorder) also present an increased risk of aggression. Such individuals may be impulsive (Black, 1982; Borum et al., 1996), hostile, seek stimulation (Black, 1982), have a low tolerance of frustration and criticism, show antisocial behaviour, reckless driving, and possess a sense of entitlement and superficiality (Scott & Resnick, 2006).

The presence of psychopathy (an individual who is superficially charming, lacking in empathy and close relationships, impulsive, and concerned with self-gratification; Cleckley, 1976) is also considered to be a strong predictor of aggression (Hare et al., 1988; Salekin et al., 1996; Abusha'leh & Abu-Akel, 2006). Abusha'leh and Abu-Akel (2006) investigated the relationship between psychopathy and aggression in schizophrenia. They reported that where a male schizophrenic shows a high degree of psychopathy, the risk of aggression is high and may not abate with a reduction in symptoms of illness. Salekin et al. (1996) conducted a meta-analysis of the literature on this topic, which included 18 studies. They reported a large effect size (d = 0.79) between psychopathy and violence.

1.3.5 Substance Abuse

Research has shown that there is a strong, well established relationship between the presence of substance misuse and aggressive behaviour (Kroll & McKenzie, 1983; Gournay *et al.*, 1998). Where a mental health problem is also present, the risk of aggression increases further (Swanson, 1994; Monahan *et al.*, 2001). Alcohol and cannabis are the most commonly used substances (Zernicke & Sharpe, 1998; Sevy *et al.*, 2001; van Mastrigt *et al.*, 2004; McCleery *et al.*, 2006). Lanza *et al.* (1994) reported that one third of a sample of aggressive patients were dependent upon alcohol. Monahan *et al.* (2001) reported that where information about behaviour immediately prior to an aggressive incident was available, 54% of aggressors had been drinking alcohol and 23% had been using illicit substances. Particular concern is raised by individuals who misuse stimulants because of disinhibition, grandiosity, and paranoia that are associated with this class of drug (Scott & Resnick, 2006).

1.3.6 Cognitive Functioning

In a general hospital setting, Winstanley and Whittington (2004) reported that in 64% of aggressive incidents the perpetrator of the aggression was experiencing some impairment in cognitive functioning at the time of the incident. They suggested that this impairment may have prevented perpetrators from having a full appreciation of the situation they were in and may have contributed to them misunderstanding the intentions of the staff member and resorting to the use of aggression.

Level of cognitive functioning has been found to correlate negatively with risk of aggression (Quinsey & Maguire, 1986; Borum *et al.*, 1996; Emerson, 1998). In a longitudinal study investigating the level of cognitive functioning in people with schizophrenia, van Winkel *et al.* (2006) reported significant changes in IQ scores over time. These authors measured IQ at the time of first hospitalisation and again ten years later. They compared scores with estimated pre-morbid intelligence and discovered that individuals with lower pre-morbid intelligence remained stable at a lower level of functioning throughout the course of the study. Individuals with higher pre-morbid intelligence showed a pattern of deterioration in functioning during first admission, but thereafter they recovered back up to their pre-morbid level ten years later. This finding supports the notion that the acute phase of a severe mental health problem is associated with impairment in cognitive functioning.

Specific cognitive impairments associated with schizophrenia have been reported to include deficits in information processing, including speed of processing, attention,

working memory, verbal and visual learning and memory, reasoning, problem solving, and verbal comprehension (Neuchterlein *et al.*, 2004). Such deficits, especially deficits in reasoning and problem solving, will impair an individual's ability to cope with stressors and strains, which will contribute to the likelihood of the occurrence of patient aggression. This is discussed in more detail in the next section.

1.3.7 Environmental Factors

Environmental factors have been found to contribute significantly to the occurrence of aggression in people with intellectual disabilities (Emerson, 1998). The detailed investigation of the role of environmental factors forms the basis of the assessment procedure known as functional analysis (O'Neill *et al.*, 1990). The role of the environment in precipitating aggression is not restricted to people with intellectual disabilities as research with psychiatric patients without intellectual disabilities has shown.

Some environmental influences on aggression that are consistent for all patient groups include friction within a ward environment between patients, staff, and patients and staff (Finnema *et al.*, 1994; Haggard-Grann *et al.*, 2006), being denied treatment (Haggard-Grann *et al.*, 2006), not recovering from illness quickly (Roth, 1987), inadequate staffing levels (Lanza, 1983; Kindy *et al.*, 2005), lack of privacy and freedom in a ward setting (Roth, 1987; Finnema *et al.*, 1994), poor organisation (Duxbury, 2002), few opportunities to engage in therapeutic activity, and poor overall policy (Finnema *et al.*, 1994; Kindy *et al.*, 2005). Roth (1987) highlighted that psychiatric patients are required to function within an environment that is often completely different to how their life is

outside of a ward. In addition, patients are required to mix with other people whom they may not get on very well with. Difficulties in adjusting to the change of environment may also influence patient aggression. The type of environment that has been described above could easily be described as poor in quality and as a poor psychosocial work environment. Andersen (2003) reported that such environments are likely to contribute to staff stress and burnout, which in turn may influence the development of incidents of patient aggression.

Investigation of the occurrence and causes of patient aggression has focused predominantly on in-patient settings. In such settings, environmental determinants are more easily identified because of the level of staffing and control that is evident. However the last forty years have seen deinstitutionalisation and the majority of people with psychiatric diagnoses are now living in a community setting where levels of support are variable. Those patients who are regularly visited by a Community Mental Health Nurse may still only been seen once per week or fortnight. This, in combination with the generally poor standard of measures that have been used (Monahan *et al.*, 2001), makes it much more difficult to gain an estimation of the occurrence and precursors of patient aggression in a community setting. It is likely that factors such as financial, interpersonal and employment difficulties have a greater role in the occurrence of aggression compared to an in-patient setting (Black, 1982).

1.3.8 Staff factors

Given that members of ward staff are an inherent part of the ward environment it is also necessary to examine the influence of staff in the occurrence of patient aggression.

Lanza (1992) suggested that the role of being a nurse could predispose nurses to being victims of aggression if a nurse's role is perceived to be one that should involve "listening to" and "accepting" everything. If the role is perceived in such a way, it is possible that patients perceive that this gives them permission to express their anger and anxiety, which is manifest in an aggressive manner.

Inadequate staffing levels have been highlighted earlier in respect to patient aggression (Lanza, 1983; Kindy *et al.*, 2005). In addition to this, Bowers *et al.* (2007a) reported that staff annual leave and vacant posts are associated with higher levels of patient aggression, as is staff absence to attend training courses on the management and prevention of aggression (Bowers *et al.*, 2006). Where there are adequate staffing levels, the amount of experience staff have in working in psychiatric settings has been postulated to contribute to patient aggression. Bowers *et al.* (2007b) investigated this in relation to student nurses and junior doctors. They found no association between the presence of these inexperienced staff on acute psychiatric wards and increased rates of patient aggression. However both Cunningham *et al.* (2003) and Whittington *et al.* (1996) reported that less experienced nursing staff were more likely to be exposed to aggression from patients.

Mixed results have also been reported for the likelihood of patient aggression towards male and female nurses. Two studies reported that there were no differences between aggression rates towards male and female nurses (Cunningham *et al.*, 2003; Whittington, 1994).

1.3.9 Interactions between patients and staff

There is also an important recognition of the influence of the nature of interactions between staff and patients in the occurrence of patient aggression:

"if assault occurred randomly, there would be many more patient victims…this strongly implies that interactions between staff and patients were a major determinant of assaultive behaviour…staff and the assaultative patient often give different reasons for the assault: staff more frequently say there was no reason whereas patients are more likely to state that they had been teased or provoked by staff"

(Quinsey, 1977 cited in Durivage, 1989).

Research evidence lends support to Quinsey's observations. Whittington and Wykes (1996) and Winstanley and Whittington (2004) reported that when the context of aggression was considered, there was a clear role of the staff member in precipitating the occurrence of aggression. Specifically, these authors reported that staff had delivered an aversive stimulus to the patient immediately prior to the occurrence of the aggression. Whittington and Wykes (1996) interviewed psychiatric nurses using a semi-structured questionnaire. A total of 63 assaults by psychiatric patients upon nurses were included in the study. In 86% of these assaults, the nurse victim had delivered an aversive stimulus to the patient immediately prior to the assault. The aversive stimulus was delivered in the form of either causing frustration to the patient by preventing a goal-orientated behaviour, or refusing to meet a request of the patient (also Zernicke & Sharpe (1998), Flannery (2005), and Flannery *et al.* (2006)); making a direct, verbal request to the patient; or initiating physical contact with the patient (such as leading or restraining an agitated patient, or administering medication: Kalogjera *et al.* (1989);

Morrison *et al.* (2002); Wynn (2003)). Zernicke and Sharpe (1998) reported that providing assistance with tasks of daily living was also a precursor of patient aggression. Winstanley and Whittington (2004) reported that 83% of aggressive incidents in a general hospital setting involved staff victims delivering potentially anxiety-provoking stimuli to the patient immediately prior to the assault. In the majority of these incidents, the anxiety-provoking stimuli involved the staff member intervening with the patient's intended (goal-directed) behaviour (also Spokes *et al.*, 2002).

Other factors reported to contribute to the occurrence of patient aggression may be attributed to the interaction style of nursing staff that Duxbury (2002) has described as "controlling". Examples of ineffective interaction styles include not listening to patients, interrupting patients, failing to keep appointments, failing to understand the patients, and making excessive demands of the patients (Finnema *et al.*, 1994; Flannery, 2005). In addition to these, Spokes *et al.* (2002) reported that in some cases nursing staff had been rude, confrontational, and tried to administer medication immediately prior to the occurrence of patient aggression.

1.4 Impact of patient aggression

Needham *et al.* (2005a) suggested that nurses who experience aggression from their patients may find themselves in an ethical dilemma: on one hand they are required to continue to provide the best possible care for their patients, and on the other hand they have the right to protect their own safety and not be assaulted whilst in the workplace.

Poster and Ryan (1989) reported that nurses do struggle with this ethical dilemma. It is likely that this could be more evident in the light of recent NHS Zero Tolerance policies that carry the expectation that legal action will be taken against patients who act aggressively towards staff. Such a dilemma has the potential to lead to the uncomfortable state of cognitive dissonance (an unpleasant state caused by inconsistency between two or more attitudes, or between attitudes and behaviour; Festinger, 1957).

Research has shown that negative psychological symptoms are common following physical and verbal aggression. These symptoms can range from minor, transient emotional distress including feelings of anger (Zernicke & Sharpe, 1998; Kindy *et al.*, 2005), stress and depression to severe and long-lasting symptoms of anxiety consistent with a diagnosis of post-traumatic stress disorder (Chaloner, 1995; Zernicke & Sharpe, 1998; Brennan, 2001; Whittington & Higgins, 2002; Chen *et al.*, 2005; Kindy *et al.*, 2005; Inoue *et al.*, 2006). In addition to the above, feelings of guilt (Ryan & Poster, 1989), insecurity (Poster, 1996; Fry *et al.*, 2002; Kindy *et al.*, 2005), and helplessness (Zernicke & Sharpe, 1998) are also common. Some nurses also report blaming themselves for having had a role in the aggression (Ryan & Poster, 1989; Jansen *et al.*, 2005; Inoue *et al.*, 2006), perceive an impairment in their relationship with the aggressive patient (Chambers, 1998; Arnetz & Arnetz, 2001) (although this has also been reported to be a causative factor in the occurrence of patient aggression: Nijman *et al.*, 1999; Duxbury, 2002), doubt their professional competency (Lanza *et al.*, 1991; Flannery *et al.*, 1995; Kindy *et al.*, 2005), doubt their career choice (Lanza *et al.*, 1991;

Kindy *et al.*, 2005), have difficulty in returning to work, and experience a change in their relationships with colleagues (Lanza, 1983; Poster & Ryan, 1994).

Behavioural consequences for nurse victims of patient aggression include hyper-vigilance for signs of further aggression (Kindy *et al.*, 2005) and seeking to avoid, where possible, having contact with the perpetrator of the aggression (Chambers, 1998). Physical consequences include headache and tension (Lanza, 1983; Poster & Ryan, 1994).

The negative sequealae of patient aggression can have a knock-on effect upon staff morale and may impact upon recruitment and retention in the workplace (Beech & Bowyer, 2004). However, protective factors do exist. Social support in particular has been reported to have a protective role in a number of psychological conditions, including depression (Kendler *et al.*, 2005; Dalgard *et al.*, 2006). Inoue *et al.* (2006) explicitly assessed satisfaction with family support of psychiatric nurses who had experienced patient aggression that they felt had left a lasting impact. The authors reported that low levels of satisfaction with family support were associated with the possible presence of post-traumatic stress disorder, supporting findings that emotional support acts as a buffer against psychological distress.

For most nurses, the options for avoiding further contact with the perpetrator of aggression may be limited. In a laboratory based experiment using a computer simulation, McCloskey *et al.* (2005) reported that having an escape option reduced the occurrence of retaliatory aggression. Although nurses do not have the option of

retaliating with aggression, it may be that hesitance in future contact may be expressed in other ways that are consistent with the problematic interaction styles described earlier. The implications of this study are of interest in that they suggest that an escape option changes subsequent behaviour. It may therefore be reasonable to hypothesise that an escape option or a time-out period may reduce the consequent distress experienced by nurses who have been victims of patient aggression.

1.4.1 Burnout

According to Lazarus and Folkman (1984), people will experience stress when they perceive that the demands posed by a situation or event exceed their own ability to cope with those demands. Schaufeli *et al.* (1993) reported that long-term exposure to job-related stressors can lead to burnout. The concept of burnout has been investigated most predominantly by Maslach and colleagues. Maslach (1982) described burnout as being a combination of exhaustion, depression, and negative feelings about oneself, and being triggered by a "mismatch between the person and the social environment of the workplace". In a psychiatric setting, the social environment can frequently be stressful due to the level of challenge posed by acutely unwell patients. Pompili *et al.* (2006) described three stages of burnout in detail. The first stage "stress arousal" is characterised by psychological and physiological symptomatology including persistent anxiety and irritability, forgetfulness, poor concentration, insomnia, grinding of the teeth during sleep, high blood pressure, palpitations and arrhythmia, headaches, and gastrointestinal complaints. The second stage is considered to be "energy conservation" – an attempt to compensate for the stress of the first stage by for example, being late, procrastinating, absences from work, tiredness, social withdrawal, increased cynicism

and apathy, and increased use of substances (including caffeine, nicotine, alcohol, and prescription medication). The final stage of burnout is known as "exhaustion" and is characterised by chronic depressed mood, mental and physical fatigue, chronic headaches and gastrointestinal complaints, increased withdrawal, and the occurrence of suicidal ideation. The three stages of burnout that have been described illustrate clearly the gradual onset of worsening symptoms over time and how the ability to continue to provide quality services is likely to be seriously compromised as the syndrome progresses.

The syndrome of burnout is characterised by high levels of emotional exhaustion and depersonalisation in combination with low levels of personal accomplishment (Maslach & Jackson, 1986). Burnout develops most commonly in people who work predominantly with other people (for example health care workers, teachers, police officers, and social service workers; Maslach & Jackson, 1982). Maslach et al. (1997) described how burnout develops from feelings of anger, embarrassment or fear that are precipitated by the difficult or problematic nature of an interaction between staff and client that is driven by the client's problem. If a solution to the client's problem is not forthcoming, feelings of frustration and helplessness compound the already demanding interaction and can lead to stress for the staff member. As the duration of stress increases, the emotional resources of the helper become depleted eventually leading to a state of emotional exhaustion. As emotional resources decrease, it is common for staff to develop negative and cynical attitudes towards the client and sometimes to believe that they are deserving of their problems (depersonalisation). The third aspect of

burnout, reduced personal accomplishment refers to feelings of dissatisfaction, particularly towards the work one does with clients.

Burnout has been studied extensively amongst nurses. Jenkins and Elliot (2004) acknowledged that there are some pressures that are common to all types of nurses but described some pressures that are specific to nurses working with psychiatric patients. These specific pressures include the intense nature of relationships between the nurse and the patient (Cronin-Stubbs & Brophy, 1985), the necessity to confront challenging patient behaviour (for example, violence towards self or others) on a regular basis (Sullivan, 1993; Poster, 1996), an increasingly diverse patient group in terms of diagnosis, involuntary detention orders, and substance misuse (Higgins *et al.*, 1999), increasing administrative demands, problems with multi-disciplinary working (Higgins *et al.*, 1999; Kindy *et al.*, 2005), and staff shortages and the consequent requirement for overtime (Kindy *et al.*, 2005). In addition to the above, Kilfedder *et al.* (2001) highlight that for psychiatric nurses, there is an expectation that they will be required to encounter these stressors on a long-term basis. The duration of contact with individual patients is likely to be shorter for nurses who work with other patient groups. Snow *et al.* (2007) reported a significant association between the number of patients being cared for and burnout amongst care staff working with people with intellectual disabilities.

Kilfedder *et al.* (2001) conducted a study of burnout in a sample of Scottish psychiatric nurses from the same health board area as the present study. They reported that the overall levels of burnout were low in comparison to the normative populations, using the Maslach Burnout Inventory (Maslach & Jackson, 1986) as a measure. Only 2% of

the sample met the criteria for high levels of burnout and within this, males were over-represented. This study is of particular interest given the sample is likely to include some of the same individual nurses and the same health board policies (with some expected changes with time). The authors highlight that unless a longitudinal design is employed the measure of burnout can only be viewed as a snap-shot and little can be said about the development of the burnout syndrome over time. To date, there have been no studies that employ the use of a longitudinal design in measuring burnout.

1.4.2 Experiential Avoidance

Hayes *et al.* (1996) described the concept of experiential avoidance as the process of a person trying to avoid engaging with distressing internal experiences, for example physiological sensations, distressing thoughts or memories, by trying to change to form, frequency and intensity of the distressing experiences. This concept has been explored in many forms of psychological therapy, from psychodynamic concepts of repression (Freud, 1966) to Mindfulness based Cognitive Therapy (Segal *et al.*, 2001). A key aspect of the process of experiential avoidance is the continuation of the process even when harm results from efforts to avoid the distressing experience. Avoidance serves to maintain psychological problems, particularly anxiety disorders insofar as temporary relief from intense symptoms of distress is gained through avoidance. Ultimately however avoidance contributes to increasing the magnitude of the problem because the avoidance behaviour is easier and more immediately rewarding than confronting the distress. In addition, cognitive processes serve to exaggerate the discomfort associated with confronting the problem, such as anticipatory anxiety and rumination. This constitutes a basic premise of behavioural therapy for anxiety disorders.

Changing our behaviour in order to reduce internal discomfort or distress is both time and energy consuming and diverts these resources away from adaptive goal-directed behaviour. The extent to which we engage in experiential avoidance thus negatively impacts upon our ability to function effectively and gain enjoyment from what we do. On the other hand, the concept of psychological acceptance refers to a person's willingness to experience negative internal states without making efforts to change the experience or letting it influence the chosen course of action (Bond & Bunce, 2003). Thus the use of energy resources is considered to be more efficient. Acceptance is a significant determinant of mental health and behavioural effectiveness (Hayes, 1987; Hayes *et al.*, 1999; Hayes *et al.*, 2006). Conversely, experiential avoidance has been related to higher levels of general psychopathology, depression, anxiety, specific fears, trauma, and a lower quality of life (Hayes *et al.*, 2004).

In relation to the present study, these concepts are important because they suggest that the degree to which a person accepts or avoids negative psychological experiences impacts upon their general well-being, which in turn impacts upon effectiveness at work (Bond & Bunce, 2003). Psychiatric nurses are already subject to an intense and difficult working environment that carries the risk of a host of negative psychological experiences resulting, for example from patient aggression. Schaufeli (1999) reported an association between an avoidant coping style and reduced personal accomplishment, which is an indicator of burnout. As there is no existing data using a sample of psychiatric nurses, it is of importance to investigate this further, specifically the relationship of acceptance and avoidance to exposure to patient aggression, well-being

and burnout. In addition, it would also be of use to investigate whether these types of measures are better related to well-being than measures of the content of cognitive attributions.

1.5 Theoretical perspectives on the impact of patient aggression

1.5.1 Cognitive Theory

As Epictetus once said "Men are disturbed not by events, but by the views they take of them" (Epictetus, A. D., 55-135 cited in Butler & Hope, 1995). This is the basic premise of Beck's (1976) cognitive theory, one of the most researched and evidence-based psychological theories of the present time. Beck's (1976) theory proposes that the view a person holds about themselves is influenced by their past and current experiences, and their past and current relationships. These factors are internalised as core beliefs, which influence the assumptions a person holds about their life and their behaviour. Core beliefs and underlying assumptions can lay relatively dormant, only being activated by either a culmination of stressors or by a single (usually negative) event. Emotional distress then results from a cycle whereby thoughts, feelings, behaviour and physical symptoms serve to interact and maintain the emotional distress. Central to this cycle is the influence of distorted patterns of thinking. Typical examples of such cognitive distortions include the rejection of evidence that challenges the emotional state and exaggeration of evidence that confirms the distress, viewing minor challenges or obstacles in a catastrophic manner, and thinking in all-or-nothing terms. Where such cognitive distortions exist, emotional distress is likely to persist unless the

distortions are challenged and restructured sufficiently. The modification and restructuring of cognitive distortions is the basic premise of cognitive therapy[3].

As Beck's theory suggests, the way in which a person thinks about an event mediates their reaction to that event. This theory has received considerable empirical support (Westbrook & Kirk, 2005; McEvoy & Nathan, 2007) in many areas of emotional distress. One such area of investigation has been the application of cognitive therapy to the distress suffered by victims of assault or trauma, an area that is particularly relevant to the present study. Bisson *et al.* (2007) conducted a systematic review and meta-analysis of psychological therapies for post-traumatic stress disorder. Thirty-eight studies were included in the analysis and the results indicated that trauma-focussed CBT should be considered as a first line treatment.

Interestingly however, there are more recent developments in psychological therapies that to date have not received the same level of investigation as CBT has. For example, Bisson *et al.* (2007) also consider Eye Movement Desensitisation and Reprocessing (EMDR) to be a first-line psychological treatment for trauma but this approach does not require the conscious modification of maladaptive cognitions. Additionally, Burns and Spangler (2001) investigated the link between dysfunctional attitudes and depression and anxiety in a sample of adults who were treated with CBT. The authors correlated measures of depression and anxiety with measures of dysfunctional attitudes at initial assessment and again 12 weeks later, irrespective of whether participants were still engaged in treatment, which was provided as part of a routine service. They found that

[3] The terms "Cognitive Therapy" and "Cognitive Behavioural Therapy" are used interchangeably. For simplicity, they shall be referred to by the acronym "CBT".

there was a consistently strong relationship between dysfunctional attitudes and levels of depression and anxiety throughout the study period, but they failed to find support for a causal role for dysfunctional attitudes. Rather, Burns and Spangler concluded that a third, but unknown, variable was responsible for mediating the relationships. This study casts a new light on psychological treatment approaches as it seems that the modification of dysfunctional cognitions and attitudes may not be the key factor in bringing about reductions in psychological distress.

1.5.2 Attribution Theory

Cognitive theory attempts to explain the process leading to emotional distress. Attribution theory is another explanation of this process. The term attribution refers to the way in which we attempt to understand the causes of behaviour (Baron & Byrne, 1994). According to Heider (1958) three critical elements of this process are locus, controllability, and stability. The dimension of locus refers to the perceived cause of an event. An internal locus indicates that the cause of an event is perceived to lie within a person, or a trait of the person (this would be a dispositional attribution). An external locus indicates that the cause of an event is perceived to be the situation the person was in at the time of the event (this would be a situational attribution). The dimension of control refers to the degree of control the person was perceived to have had over the event. The dimension of stability refers to the likelihood of the behaviour occurring again in the future, i.e. the behaviour was uncharacteristic of the person, or the behaviour is seen to be exhibited regularly by the person.

As with all cognitive processes, the process of attributing cause to behaviour is not without its potential problems. Two closely related problems in this process are of relevance to the present study. The fundamental attribution error (Heider, 1958) refers to a strong tendency to explain the actions of another person in dispositional, rather than situational terms i.e. their behaviour was caused by their personal traits rather than the situation they were in at the time. The actor-observer bias (Jones & Nisbett, 1971) refers to the tendency to explain our own behaviour in terms of situational influences, however when attributing cause to the same behaviour of someone else, there is a tendency to overemphasise the role of dispositional factors and to underemphasise the role of situational factors.

Fenwick (1997) hypothesised that these biases would make care staff more likely to attribute the challenging behaviour of people with intellectual disabilities to internal (dispositional) factors rather than external (situational) factors. This hypothesis was supported by Weigel *et al.* (2006) but was not supported by Fenwick (1997) and Tynan and Allen (2002). Tynan and Allen (2002) suggested that the presence of an intellectual disability (regardless of severity) led to the conclusion that the challenging behaviour was not caused by dispositional factors.

There are fewer studies that investigate attributions using a sample of people with psychiatric diagnoses. It may be that the presence of a psychiatric condition has the same mitigating effect as the presence of an intellectual disability. It has however been established that nursing staff and psychiatric patients differ in their explanations of patient aggression. Duxbury and Whittington (2005) used a survey design to establish

that nursing staff made dispositional attributions, citing the mental health problem as the reason for aggression, and psychiatric patients made situational attributions for their behaviour, citing restrictive environments and nurse's attitudes as having causative roles. This is consistent with the actor-observer bias (Jones & Nisbett, 1971). Similarly, using a naturalistic design involving the review of recorded incidents of patient aggression, Leggett and Silvester (2003) reported that attributions for control were different when psychiatric nurses were evaluating their own degree of control over an incident as well as the degree of control held by the patient over their behaviour. Specifically, where attributions were made that were high for the patient's control over their behaviour, nurses made neutral attributions for control regarding their own behaviour.

1.5.2.1 Attributions and emotional distress

Cognitive theory and attribution theory are inherently linked insofar as they both consider the role of thought processes in mediating reactions to an event. Poster (1996) also supports the interpretation of an event as a critical factor in determining responses to an event. Although the content of cognitions has principally been the focus of empirical research, attribution style has also been linked with emotional disorders such as depression. People with depression tend to make dispositional attributions about negative events: a negative event occurs because of stable, internal and controllable factors (for example, I did not get the job because I am not good enough); and situational attributions about positive events: a positive event occurs because of unstable, external and uncontrollable factors (for example, chance) (Baron & Byrne,

1994). Thus the way in which a person attributes cause to an event can influence their emotional response.

A large focus of research on attributions for aggressive behaviour has been with care staff who work with people with intellectual disabilities. Challenging behaviour is common amongst this population and is defined as "culturally abnormal behaviour of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or the behaviour which is likely to seriously limit use of, or result in the person being denied access to ordinary community facilities" (Emerson, 1995). There are parallels between this definition and aggressive behaviour displayed by people who have mental health problems but do not have an intellectual disability. If someone without an intellectual disability behaves in such a way as to endanger themselves or other people, their access to community facilities is likely to be limited, either through the use of the mental health legislation if they have mental health problems, or through the judicial system if they do not have mental health problems. Thus, using findings from research with people with intellectual disabilities (referred to as ID herein) is a helpful place to begin understanding attributions for aggressive behaviour.

The research using a population of care staff working with people with ID and challenging behaviour has yielded a link between dispositional attributions and negative emotions. Bailey *et al.* (2006) reported that contrary to their original hypothesis, internal, stable, and uncontrollable attributions were associated with higher levels of negative emotion, including depression and anger, amongst care staff working with

people with ID and challenging behaviour. Bailey *et al.*'s original hypothesis was based upon findings indicating that attributions of control were the best predictor of negative emotion (Dagnan *et al.*, 1998). Similarly, Weigel *et al.* (2006) found that staff who made such dispositional attributions about challenging behaviour of people with ID showed higher levels of expressed emotion and critical comments. Stanley and Standen (2000) also reported a relationship between dispositional attributions, negative emotions, and a reduced propensity to help. Such findings are concerning in the light of a model by Hastings (2002), which proposed that exposure to challenging behaviour leads to care staff experiencing negative emotions that contribute to stress and burnout, and avoidance. Such an effect is likely to lower the quality of care that is provided.

1.5.2.2 Attributions and behaviour

The type of attributions a person makes about a specific event has been shown to influence the likelihood that an observer would be willing to provide any necessary help in that event. Weiner (1980, 1986) postulated that the emotional reaction to an event is critical in mediating helping behaviour and that the emotional reaction itself is largely determined by attributions of control (rather than attributions of locus and stability). For example, if someone is seen falling over but is drunk, an observer would attribute the fall to the person being drunk (a factor within the control of the person who fell) and the emotional reaction is likely to be one of anger or annoyance and the observer is unlikely to help the person who fell. By contrast if the person who fell was not drunk, but tripped over an uneven pavement, the observer would be more likely to conclude

that the fall was an accident (outwith the control of the person who fell), feel sympathetic, and be more likely to offer help to the person who fell (Baron & Byrne, 1994). Empirical support for Weiner's theory of helping behaviour has been provided by Brewin (1984) who reported that where medical students considered that patients had had little control over the events that precipitated their medical problem, they were more likely to engage in helping behaviour than when they perceived the patient to have had more control over the cause of their condition Similarly, Sharrock *et al.* (1990) reported that staff in a medium secure unit for mentally disordered offenders were less likely to engage in helping behaviour and less optimistic about treatment outcomes when they rated the cause of "negative" behaviour as more stable and controllable by the patient, compared to when ratings of stability and control were lower. Further support for the role of attributions in mediating helping behaviour has been provided by Reid and Millard (1997), Dagnan *et al.* (1998), and Stanley and Standen (2000), all of which point to the importance of attributions for control in determining subsequent behaviour.

However, most studies of this kind measure intended helping behaviour, rather than actual helping behaviour (Dagnan *et al.*, 1998; Wanless & Jahoda, 2002). Where actual helping behaviour is the focus of research, results tend not to support Weiner's model so strongly (Dagnan & Weston, 2006). Using a sample of psychiatric nurses, Leggett and Silvester (2003) demonstrated that where attributions for the patient's control over their aggressive behaviour were high, nurses were more likely to employ the use of seclusion. Where attributions for control were low, medication was more likely to be the chosen course of action for male patients but not female patients.

Wanless and Jahoda (2002) investigated the impact of depicting aggression using a hypothetical vignette compared to using an account of a real event, upon emotional responses of care staff who worked with people with intellectual disabilities. They reported that the real account evoked a stronger emotional response than the hypothetical vignette, and that the client depicted in the real account was evaluated more negatively. In contrast to predictions made by Weiner's theory, strong, negative evaluations and attributions of a high degree of control were associated with an increased willingness to provide help to the aggressive client, despite this stronger emotional reaction. Similarly, Bailey *et al.* (2006) conclude that Weiner's model of helping behaviour cannot be applied to care staff who work with people with ID and challenging behaviour. Thus it appears that people are more complex than attribution theory alone would predict. Self-reported beliefs about causation, control and stability do not seem to explain the whole story in predicting responses to aggressive individuals. It may be that being in the role of a "caring" professional overrides predictions made based on the content of beliefs.

1.6 Nurses' Beliefs about Patient Aggression

There has been some investigation into the type of attributions associated with patient aggression. Specifically there is a discrepancy between the types of causal attributions made by nurses and those made by patients (Duxbury & Whittington, 2005) that is reflective of the fundamental attribution error (Heider, 1958). Post-incident analyses of patient aggression have revealed that patients make external attributions when

explaining the cause of their own aggressive behaviour (Whittington, 2000; Duxbury & Whittington, 2005). Such external causes include for example, a restrictive or overcrowded environment, nurses controlling attitudes, and poor communication (Harris & Morrison, 1995; Duxbury, 2002; Duxbury & Whittington, 2005). Conversely, nurses tend to make internal attributions when explaining patient aggression (Nolan *et al.*, 1999) for example, patient agitation or the nature of an individual's psychiatric illness (Duxbury & Whittington, 2005). The presence of the fundamental attribution error raises concern in the light of findings that suggest this has a negative impact upon treatment provision in the form of willingness to provide assistance (Dagnan *et al.*, 1998; Sharrock *et al.*, 1990).

In a multinational study of psychiatric nurses' beliefs and concerns about work safety and patient assault, Poster (1996) reported that assaults were viewed as expected events when working with psychiatric patients (also Zernicke & Sharpe, 1998; Maguire & Ryan, 2007). Lanza *et al.* (2006) describe patient aggression towards nursing staff as a "virtually normative experience". Maguire and Ryan (2007) suggested that this may lead to underreporting of patient aggression. Despite aggression being expected, Chen *et al.* (2005) reported that psychiatric nurses experience state anxiety at the time of the aggression, with female nurses experiencing this as intimidation more than male nurses (Jansen *et al.*, 2006). These authors also supported a hypothesis by Nyamathi and Kashiwabara (1988) who suggested that nurses' cognitive appraisal of the risk associated with the aggression is an important determinant of the anxiety experienced by psychiatric nurses. Jansen *et al.* (2006) hypothesise that cognitive appraisal and the

ability to attend to other aspects of the situation are in turn determined by the level of emotion being experienced.

Despite feelings of anxiety when presented with patient aggression, Chen (1993) and Roman and Floyd (1988) reported that psychiatric nurses hold more positive attitudes towards psychiatric patient aggression than non-psychiatric nurses and suggested that this is due to their training, experience and commitment to the provision of care for this patient group. Whittington and Higgins (2002) reported that nurses with more than 15 years of experience displayed a more tolerant attitude towards patient aggression. A significant correlation was found between those with a more tolerant attitude and a profile consistent with lower levels of burnout. A more tolerant attitude may be aligned with greater levels of acceptance and this may suggest that a greater level of acceptance of the experiences of patient aggression is related to better well-being, a finding which would support Hayes *et al.* (2004) who reported that greater levels of experiential avoidance were related to factors indicative of poorer well-being (see section 1.4.2 on Experiential Avoidance).

The majority of research on the related cognitive structures of attitudes, cognitions, and attributions has focused upon their measurement at one point in time. Little is known about the development of these cognitive structures over time. Attitudes, cognitions and attributions are amenable to change over time as described by Schwarz and Bohner (2004) who separated attitudes into three components: cognition, affect, and behaviour. Each of these components can be influenced by past experiences as well as current experiences on both a personal and public level. For example, experiencing aggression

either at work or out-with work can influence personal cognitions and feelings about aggression, while events such as the current climate of terrorism can influence public opinion about aggression. As nurses are also members of the public, their attitudes can be influenced by both public and personal opinion (Jansen *et al.*, 2006). The process by which cognitive structures change has seldom been studied. In particular, there is a paucity of literature investigating factors that influence the development attributions, after all, the experiences upon which cognitions, attributions and attitudes are based are not sterile. Measurement of these concepts has so far tapped into the end product of what clearly can be a complex cognitive process. Further research is required to begin understanding some of the factors that influence the development of attributions and attitudes.

1.7 Research Aims and Hypotheses

Although there have been many studies focussing upon psychiatric nurses beliefs or cognitions about patient aggression, there have been fewer studies that have acknowledged the more dynamic aspects of making attributions. Numerous literature searches using several different electronic databases (as described in the introductory section) failed to reveal any study that specifically investigated how attributions change. Only one study was found that took account of the process of change over time (Jansen *et al.*, 2006), but this referred to directions for future research rather than being an experimental aspect of the study.

Prior knowledge of a person has been shown to influence the types of attributions made: dispositional attributions if the behaviour is consistent with prior knowledge of the person; situational attributions if the behaviour is not consistent with prior knowledge (Baron & Byrne, 1994). Yet no studies have been found where the focus of the research is upon how prior knowledge becomes established and how this impacts upon the attributions made.

This study therefore aims to redress this area of limited information by focussing primarily upon how the learning of new information about a person influences the attributions made about that person's behaviour. The principal research question therefore became:

1) Does the learning of new information about a patient change attributions made about locus, control, and stability, that psychiatric nurses make about aggression displayed by that patient?
    a. In the light of the fundamental attribution error (Heider, 1958), it was hypothesised that baseline attributions would be dispositional and the introduction of new information would cause a change in attributions for locus, control, and stability. Specifically the new information was hypothesised to make attributions more dispositional than at baseline (one-tailed hypothesis).

Following from this, a series of secondary research questions were identified. These include:

2) Does the setting of an aggressive incident influence the attributions made by psychiatric nurses?
    a. Specifically it was hypothesised that where an aggressive incident occurred in an in-patient setting, situational attributions would be made. This one-tailed hypothesis was based upon the predominance of data on aggression in in-patient settings and the awareness of environmental influences in such settings.

3) How does previous exposure to aggression influence attributions about aggression?
    a. Based on the findings of Whittington and Higgins (2002), who reported that nurses with more than fifteen years experience had a more tolerant attitude towards patient aggression, it was hypothesised that nurses with a greater exposure to patient aggression would make situational attributions about patient aggression (one-tailed hypothesis).

4) What is the impact of attributions about aggression upon staff well-being?
    a. Specifically it was hypothesised that burnout and poor general health would be correlated with dispositional attributions (a one-tailed hypothesis).

5) What is the relationship between the content of attributions, coping style (acceptance or avoidance), burnout, general well-being, and the impact of patient aggression?
    a. Specifically it was hypothesised that there would be a correlation between higher levels of avoidance and burnout, poor general well-being, a greater negative impact of patient aggression, and dispositional attributions (one-tailed).

CHAPTER 2

METHODOLOGY

METHODOLOGY

2.1 Design

This study employed a mixed design. The first hypothesis (What impact does the introduction of new information have on attributions?) was tested using a repeated measures design. The dependent variable was the attribution ratings, and the independent variable was the introduction of new information. Three levels of the independent variable were: information about diagnosis of schizophrenia, information about history of aggression, information about history of substance misuse.

The following two hypotheses were addressed using an independent samples design. In hypothesis 2 (What is the impact of incident setting upon attributions?) the dependent variable was the attribution ratings (baseline ratings only) and the independent variable was the setting of the incident (community or workplace setting). Hypothesis 3 (How does exposure to aggression influence attributions?) also utilised baseline attribution ratings as the dependent variable. The independent variable with two levels were "low" and "high" classifications of previous experience of aggression in the workplace.

Hypotheses 4 and 5 employed a correlational design. In hypothesis 4 (What is the relationship between attribution ratings and well-being?) baseline attributions were the explanatory variables which were hierarchically regressed with total and sub-scale scores from the General Health Questionnaire (GHQ-28) and the Human Services Survey (the measure of burnout) (the dependent variables). In hypothesis 5 (What is the relationship between the content of attributions, coping style, and general well-being)

baseline attribution ratings were correlated with the measures of coping style, general well-being, exposure to aggression, and the impact of patient aggression.

2.2 Participants

2.2.1 Recruitment of Participants

Potential participants were identified on the basis of the following inclusion criteria: participants must be registered mental health nurses or nursing assistants currently working within the field of General Adult Psychiatry. Anyone falling out-with this remit was excluded from the opportunity to become a participant. This included registered mental health nurses not currently practising, for example nurse managers or those on secondment to another post.

Application of the above criteria yielded a total of 50 potential participants working within community mental health settings, and a total of 131 potential participants working with an in-patient adult mental health service. Following discussion with Nurse Managers and Senior Charge Nurses responsible for each group of staff in order to take account of staff off sick at the time of the study (four in-patient wards, four community mental health teams, two day hospitals, an Assertive Outreach Team, and an Acute Mental Health Response Team), a total of 140 invitations to participate (see Appendix B) in the study were delivered by hand along with the research schedule (see Appendix C). Where possible, these were personally given to individual nurses along with an explanation of the background and requirements of the study and the opportunity to ask any questions.

2.2.2 Sample Size

Three *a priori* statistical power analyses were conducted in order to ascertain the required sample size to ensure that the study had sufficient power to detect effects with confidence. Three different methods were used in order to improve the reliability of the estimate. There was some variance in the results of the different methods so the mean of the different methods was calculated and was used as the required sample size.

In accordance with convention and existing similar studies, the effect size chosen for this study was a medium effect size (0.60), the chosen alpha level was 0.05, and the chosen power level was 0.8. The decision to use an effect size of 0.6 was based on the findings of a methodologically similar study by Tynan and Allen (2002) who reported an effect size of 0.67. These criteria were selected in order to reduce the likelihood that the null hypothesis would be accepted when in fact it was false (Type II error) (i.e. concluding that new information does not cause a change in attributions, when in fact it does).

2.2.2.1 A study by Stanley and Standen (2000) investigated attributions for challenging behaviour using a repeated measures ANOVA to analyse their data. There were 50 participants in this study.

2.2.2.2 A direct comparison with a methodologically similar study revealed that the Tynan and Allen (2002) study reported a sample size of 42 participants.

2.2.2.3 Cohen's (1992) power tables indicate that for a two-group analysis of variance (ANOVA), using the above stated criteria, each group requires 64 participants indicating a total of 128 participants are required for this study. However, this design does not directly map onto the main hypothesis of this study but it does correspond to hypothesis 2. Power tables and procedures for calculation of a required sample size for repeated measures ANOVA have proved difficult to source.

Calculation of the mean of these three methods revealed a figure of 73 participants.

2.2.3 Characteristics of the sample

Of the 140 invitations to participate, a total of 58 registered mental health nurses meeting the inclusion criteria responded (41.4% response rate). The demographic characteristics of the sample are shown in table 2.1. Table 2.1 shows that female nurses comprised the majority of the sample (63.8%). Equal numbers of in-patient and community based nurses chose to participate (n = 29 for each). The most common nursing grade was Senior Staff Nurse (36.2%) followed by Staff Nurses (27.6%). There was no notable difference in the age of participants who worked in in-patient or community bases but community based nurses had a greater length of service in General Adult Psychiatry (mean 17.1 years) than in-patient based nurses (mean 7.9 years).

Table 2.1: Demographic Characteristics of Sample

Gender:	N (%)	***Base:***	N (%)
Male	21 (36.2%)	*In-patient Ward*	29 (50%)
Female	37 (63.8%)	*Community Team*	29 (50%)
Grade:			
Senior Charge Nurse	8 (13.8%)	*Staff Nurse*	16 (27.6%)
Charge Nurse	6 (10.3%)	*Nursing Assistant*	6 (10.3%)
Senior Staff Nurse	21 (36.3%)	*Missing Data*	1 (1.7%)
Age (years):	*Mean (SD)*	***Length of Service (years)***	*Mean (SD)*
Overall Sample	42.5 (7.5)	*Overall Sample*	14.4 (8.8)
In-patient Nurses	41.6 (7.7)	*In-patient Nurses*	11.8 (7.9)
Community Nurses	43.6 (7.3)	*Community Nurses*	17.1 (8.9)

2.3 Measures

2.3.1 The General Health Questionnaire (GHQ-28; Goldberg, 1988)

The GHQ-28 is a 28 item version of a questionnaire intended for use in screening for the presence of minor mental health problems (not psychotic disorders) in both the general population and in patients in a primary care or general medical setting (Goldberg & Williams, 1988). It assesses the person's current state in comparison to their "usual" state and is considered a measure of short-term psychiatric problems rather than more long-standing traits. The full version contains 60 items with three other versions available: a 30-item version, a 28-item version, and a 12-item version. The 28 item version is a scaled version containing four sub-scales: somatic symptoms, anxiety

and insomnia, social dysfunction, and severe depression. Although four sub-scales exist, the total score is used to define cases where there is likely to be a minor mental health problem.

Research has shown that the shortest version of the GHQ, the GHQ-12, is capable of producing results that are comparable with the longer versions (Goldberg *et al.*, 1997). Goldberg *et al.* (1997) conducted a large-scale study that compared the validity of the GHQ-12 and the GHQ-28 in detecting psychological disorder amongst a general health care population in 15 centres across the world. The results of this study indicate that both scales are comparable in their validity coefficients: GHQ-12 = 0.95, GHQ-28 = 0.93 in a UK sample. The conclusion made by Goldberg *et al.*, was that both scales are as good as each other. However, as it is the GHQ-28 that has been used in other research studies of a similar type to the present study (the impact of workplace violence on psychiatric and non-psychiatric nurses, Merecz *et al.*, 2006), this is the version utilised here.

In addition to there being different versions of the GHQ, there are also different methods of scoring responses. Each item is scored on a 4-point scale ranging from "better than usual", "same as usual", "worse/more than usual", and "much worse/more than usual". The method known as GHQ scoring scores responses as 0-0-1-1 whereas typical Likert scoring would score the same responses as 0-1-2-3. A method known as C-GHQ scoring scores the responses as 0-0-1-1 for items where agreement indicates a healthy response, and 0-1-1-1 for items where agreement indicates an unhealthy response. The first two methods do not require reverse scoring, so a higher score is

indicative of a more severe mental health problem. The different methods of scoring were also compared by Goldberg *et al.* (1997) who found that GHQ and Likert methods were comparable for the GHQ-28, and that the C-GHQ method was not as robust as the other two methods. Based on this evidence and the scoring methods used in other studies (Merecz *et al.*, 2006; Kilfedder *et al.*, 2001), the present study utilised the GHQ method of scoring (i.e. 0-0-1-1).

The Goldberg *et al.* (1997) study also reported a threshold for the indication of a minor mental health problem. Across all 15 centres included in the study, the average threshold was 5/6. Scores above these figures are indicative of the possible presence of a minor mental health problem. A threshold of 6/7 was reported for a UK sample. Given the slight discrepancy in the world-wide and UK specific thresholds, a threshold figure of 6 will be considered to be indicative of the possible presence of a minor mental health problem in this study.

2.3.2 The Acceptance and Action Questionnaire - II (AAQ-II, Hayes et al., 2004)

The AAQ-II is a ten item questionnaire designed to assess experiential avoidance - the relationship a person holds with their unpleasant thoughts and experiences. The relationship is classified either as one of experiential avoidance and immobility (a maladaptive coping strategy) or one of acceptance and action (an adaptive coping strategy). Respondents are required to indicate how true each statement is for them personally using a 7-point Likert scale with the anchor points of 1 (never true) to 7 (always true). Higher scores on this scale indicate a negative relationship characterised by experiential avoidance and immobility, whereas lower scores represent a more

healthy relationship of acceptance and action. There are no published cut-off values for this scale.

The ten-item AAQ-2 is the result of a follow-up analysis of an original 9-item version, the Acceptance and Action Questionnaire. Hayes *et al.* (2004) conducted extensive factor analytic procedures in developing their scales, and they reported an internal consistency of 0.70. The AAQ-2 has been found to correlate with the original AAQ at $r = 0.9$. As this is a relatively new scale and psychometric data is relatively limited, a reliability analysis with the sample of this study was conducted. The results indicate that Chronbach's alpha = 0.87. The generally accepted criterion of 0.7 was suggested by Hammond (1995).

2.3.3 The Human Services Survey (MBI-HSS, Maslach & Jackson, 1986)

The Maslach Burnout Inventory is a widely used measure of burnout. The version specific to people who work primarily with other people is called the Human Services Survey (MBI-HSS). In all versions, burnout is measured along three dimensions: Emotional Exhaustion (EE) (9-items characterised by poor emotional coping at work), Depersonalisation (DP) (5-items characterised by negative attitudes and feelings towards "recipients", in this case psychiatric patients), and Personal Achievement (PA) (8-items characterised by the evaluation of accomplishments in the working environment). The three sub-scale scores are interpreted independently rather than contributing to a total composite score. Table 2.2 shows the scores that are indicative of high, moderate, and low burnout. Different norm groups and cut-off points exist for this scale. The cut-off points chosen for use in this study were also used by Kilfedder *et al.*

(2001) with a comparable sample of psychiatric nurses and represent comparison with an overall sample that included mental health workers.

Table 2.2: Cut-off scores and profile of degrees of burnout for the Maslach Burnout Inventory – Human Services Survey.

	Sub-scale Score Range		
Degree of burnout	Emotional Expression	Depersonalisation	Personal Accomplishment
Low	*0 – 16*	*0 – 6*	*39 +*
Moderate	*17 – 26*	*7 – 12*	*32 – 38*
High	*27 +*	*13 +*	*0 – 31*

Maslach and Jackson (1993) reported the following internal consistency (Chronbach's α) coefficients: Emotional Exhaustion $\alpha = 0.90$, Depersonalisation $\alpha = 0.71$, and Personal Accomplishment $\alpha = 0.79$. Jenkins and Elliot (2004) reported the following reliability coefficients with a sample of psychiatric nurses from the UK: EE $\alpha = 0.90$, DP $\alpha = 0.75$, and PA $\alpha = 0.76$. Given that the MBI is so well established as a leading measure of the burnout syndrome and that the psychometric properties of the scale are well established, a reliability analysis was not conducted with the present sample.

The MBI-HSS is an established instrument for measuring burnout in samples of psychiatric nurses (Kilfedder *et al.*, 2001; Robinson *et al.*, 2003; Jenkins & Elliot,

2004). Kilfedder *et al.* (2001) found low to average levels of burnout in a sample of 510 psychiatric nurses from a directly comparable sample.

2.3.4 The Exposure to Aggression and Violence Scale (EAVS; Petrie, 2000)

The EAVS was developed by Petrie in 2000 for the purposes of a doctoral thesis as part of postgraduate training in Clinical Psychology at the University of Edinburgh. It is a non-validated questionnaire containing four sub-scales: Incidents of being the target of aggression from patients or their families; Support gained from colleagues and management in the aftermath of the most distressing incident within their career; Witnessing incidents whereby someone else is the target of aggression from patient/other; and Injuries sustained as a result of any incidents. All responses are given on a 5-point Likert scale corresponding to the approximate number of incidents (Incidents and Witnessing incidents sub-scales): 1 = <5 incidents, 2 = 5-10 incidents, 3 = 11-15 incidents, 4 = 16-20 incidents, 5 = > 20 incidents. Where zero incidents were reported, a score of 0 was given. In the Support subscale, the ratings are: 1 = Very Unsupportive, 2 = Quite Unsupportive, 3 = Neither Supportive nor Unsupportive, 4 = Quite Supportive, 5 = Very Supportive. Finally in the Injuries subscale, participants were required to enter the approximate number of occasions they have received each type of injury in the last few months.

The EAVS has not been subjected to psychometric analysis and standardisation therefore a reliability analysis was conducted with the population of the present study. The results indicate satisfactory internal consistency scores on all subscales except the injuries subscale: Incidents $\alpha = 0.76$; Support $\alpha = 0.87$; Witnessing Incidents $\alpha = 0.87$;

Injuries $\alpha = 0.25$. Inclusion of the EAVS in the present study was justified by the similarity of the present study to the study for which Petrie developed this scale. Petrie (2000) investigated violence, aggression and traumatic incidents within the workplace in a comparable sample of in-patient psychiatric nurses.

2.3.5 The Impact of Patient Aggression on Carers Scale (IMPACS, Needham et al., 2005)

The IMPACS is a ten item questionnaire designed to monitor the impact of incidents of patient aggression towards psychiatric nurses. It was developed from a review of the literature on the impact of patient aggression and was tested on a sample of psychiatric nurses working in acute wards in Switzerland (Needham *et al.*, 2005). The authors of the scale reported that factor analysis revealed three distinct factors: Impairment of the relationship between the patient and carer; Adverse moral emotions; and Adverse feelings towards external sources. Items on these three factors are measured on a 5-point Likert scale with categorical responses ranging from the anchor points of Never to Always. The response categories were scored as follows: Never = 0, Rarely = 1, Sometimes = 2, Often = 3, Always = 4. As such, the higher the score, the greater the negative impact of patient aggression. There are no published cut-offs for this scale.

The IMPACS is a recently developed scale with limited psychometric data so a reliability analysis was conducted with the data from this study. This revealed an internal consistency of 0.76 for the impairment in relationship between patient and carer subscale, 0.66 for the adverse moral emotions subscale, and 0.67 for the adverse feelings to external sources subscale (although these results are lower than the

recommended criterion of 0.7, they do not differ significantly from this figure and are considered to be satisfactory).

2.4 Ethical Considerations

An application was submitted to the Tayside Committee on Medical Research Ethics. Approval for the study was received in November 2006. In accordance with procedure, a further application was made to the NHS Tayside Research and Development Department, which was approved in December 2006 following notification of full ethical approval. Correspondence regarding this procedure can be found in Appendix A.

Feedback from the ethics committee stated that "There is no requirement for a consent form since this is returned fully anonymous". This statement raised some concern and the decision was taken to provide participants with a consent form because it was felt to be the best way to ensure that participants had fully understood the purpose of the study, the requirements of the study, that participation was voluntary and that withdrawal at any point without having to provide a reason was a right of the participant. This issue shall be discussed in more detail in the Discussion chapter.

The main ethical concern with this study was the potential to evoke some degree of emotional distress as a result of participants directly being asked to recall experiences of aggression, some of which involved the participants themselves. Participants were explicitly asked about their own experiences of aggression whilst at work, the impact of

this, and about their general health. It was possible that this probing could give rise to feelings of distress that were perhaps unexpected, or related to past distress that was associated directly with nurse's experiences. It was not possible to control for participants who themselves either had previously been or were currently suffering from mental health problems.

The possibility of unexpected distress was highlighted to participants in the Participant Information Sheet prior to their consenting to participate. Information was provided on what action to take in the event of experiencing new or past distress. Participants were informed in writing that they were free to contact any member of the research team for any reason relating to this study. Contact information for the research team (two trained Clinical Psychologists and one Trainee Clinical Psychologist, the author of this study) was provided. In addition, participants were also advised that they could consult their own General Practitioner or the local Occupational Health and Safety Advisory Service (OHSAS) if they wished to. Discussion had been undertaken with OHSAS in order to collaborate on the options available for participants to access the service if they needed to, and to provide written information that OHSAS were satisfied with (this included telephone numbers, call rates from mobile telephones, and potential waiting lists).

2.5 Procedure

Each participant was presented with a schedule, which included the following:

- Invitations to participate from the researcher and clinical supervisor
- Participant Information Sheet

- Consent Form
- Research pack including:
    - Demographic section (Section 1)
    - Vignette (Section 2)
    - Three further items of information (Section 2)
    - Five Questionnaires (Section 3) including:
        - General Health Questionnaire (GHQ-28, Goldberg *et al.*, 1988)
        - Acceptance and Action Questionnaire (AAQ-2, Hayes *et al.*, 2004)
        - Human Services Survey (Maslach & Jackson, 1986)
        - Exposure to Aggression and Violence Scale (Petrie, 2000)
        - Impact of Patient Aggression on Carers Scale (IMPACS, Needham *et al.*, 2005)

Participants were given the invitations to participate and asked to read the Participant Information Sheet in order to ensure that the consent they gave was informed consent. Consent forms were returned using a separate pre-addressed envelope, posted in the NHS internal mail system, thereby encountering no postage costs to the participant.

A full copy of the schedule can be found in Appendix C. Sections 1 and 3 were identical for all participants. Section 2 varied in the setting of the vignette and the order of the presentation of the new information.

Each participant was presented with only one vignette (independent samples). These were randomly allocated. The vignette depicted an aggressive incident to which they were witness. Studies that have measured attributions relying solely on a vignette design have received some criticism (Kelley & Michela, 1980; Wanless & Jahoda, 2002). Wanless and Jahoda (2002) reported that where real and vignette incidents were used to investigate staff attributions about challenging behaviour, stronger emotional responses were reported by staff viewing the real incident as opposed to the vignette incident. These authors question the validity of studies relying solely upon vignettes.

In the present study, one vignette depicted an incident involving physical aggression in a workplace setting and the other in a non-workplace setting. Both vignettes were matched for all information except the setting.

The workplace vignette is shown in Figure 2.1 and the non-workplace vignette is shown in Figure 2.2.

Figure 2.1: Exact wording and presentation of workplace vignette.

You are entering the ward in which you work and see your colleague is busy with a patient you recognise as Mike, a 33 year old man. They seem to be arguing and you then see Mike pushing your colleague over and running out of the ward. You help your colleague up and he tells you that the argument had been about how much money Mike had left in his patient fund.

Figure 2.2: Exact wording and presentation of non-workplace vignette.

You are in town on a day off and you notice a customer arguing with the salesperson at a market stall. You recognise the customer as Mike, a 33 year old man and you approach the stall to see if you can help. When Mike sees you approaching, he pushes the salesperson over and runs off. You help the salesperson to get up and he tells you that the argument had been about whether Mike had been given the correct change.

Participants were asked to read the vignette, which was followed by the written instruction shown in Figure 2.3:

Figure 2.3: Exact wording and presentation of instruction to participants.

Please read the statement below and indicate your response by circling the appropriate number on the scale.

The three attribution ratings corresponded to the dimensions of locus, controllability, and stability (Heider, 1958; Weiner, 1974). The anchor points of the scales

corresponded to the extremities of these dimensions. The statements can be seen in figures 2.4, 2.5, and 2.6 below:

Figure 2.4: Exact wording and presentation of the locus scale.

The aggression in this incident was caused by:

Mike *The Situation*

1 2 3 4 5 6 7

Figure 2.5: Exact wording and presentation of the control scale.

The degree of control Mike had over his behaviour was*:*

Can definitely control *Can not control*

1 2 3 4 5 6 7

Figure 2.6: Exact wording and presentation of the stability scale.

The likelihood of this occurring again is:

Changes from day to day *Stays the same*

1 2 3 4 5 6 7

The baseline vignette and attribution ratings were followed by the presentation of three new pieces of information. The order of presentation was counterbalanced using a latin square design in order to accurately assess the effect on attributions of each new piece of information, independent of the order of presentation of the new information. Each piece of information was presented on a separate page and followed by the same instruction and three attribution ratings as detailed in Figures 2.3, 2.4, 2.5, and 2.6, above. Figure 2.7 below shows the three new pieces of information:

Figure 2.7: Exact wording of the three new pieces of information, which was presented in a counterbalanced order on separate pages, each being followed by instruction to complete the three attribution ratings.

- **You then learn that Mike has a diagnosis of Schizophrenia.**
- **You then learn that Mike has often behaved like this in the past and he can also be verbally abusive.**
- **You then learn that Mike was previously involved in local substance abuse services.**

Participants were then directed to complete section three, which consisted of the five questionnaires detailed above in the order of presentation. Instructions for the completion of each questionnaire were given separately on each questionnaire.

Once participants had completed this they were asked to return their pack in the pre-addressed envelope provided, using the NHS internal mail system, thereby not imposing

postage costs to the individual participants. Consent forms were also returned using a separate pre-addressed envelope with no postage costs required.

2.6 Data Analysis

Analysis of the data was completed using the Statistics Package for Social Sciences (SPSS) version 14.0 for Windows. A mixed model Analysis of Variance (ANOVA) was used to investigate the effects of new piece of information upon baseline attribution ratings, and whether or not there was any difference in attributions depending upon the setting of the vignette (hypotheses 1 and 2). Independent samples t-tests were used to test whether baseline attributions could be differentiated by the degree of previous exposure to aggression (hypothesis 3). Hierarchical multiple regression analysis was used to investigate the nature of the relationships between attributions, general health and burnout for hypothesis 4. Correlational analysis was used to investigate the relationships between attributions, general health, burnout, experiential avoidance, exposure to aggression, and the impact of patient aggression, which constituted hypothesis 5.

CHAPTER 3

RESULTS

RESULTS

3.1 Normality of Data

Preliminary analysis of the descriptive statistics and histograms suggested that a large proportion of the data was skewed. In order to make use of parametric methods of analysis, certain assumptions must be met which include: a normal distribution, homogeneity of variance, and no extreme, or outlying scores. Having data that is skewed may violate the first assumption if the skew is too great. Dancey & Reidy (2004) report that where the value of the skewness statistic is around about 1 (or -1), the degree of skewness is too great to be considered acceptable.

Data that appeared to violate the assumption of the normal distribution by being skewed included: GHQ (2.25); AAQ (0.98); MBI – Emotional Expression (1.17); MBI – Depersonalisation (1.63); EAVS – Exposure Total (1.24). A one-sample Kolmogorov-Smirnov test was used to further investigate the distribution of the data for these measures. The normal distribution was chosen as the theoretical distribution with which to compare the data. Significant results were obtained for the GHQ ($Z = 2.16$, $p < 0.01$) and the EAVS ($Z = 1.73$, $p < 0.01$) data indicating that the normal distribution does not fit this data and non-parametric methods of analysis would be appropriate when testing hypotheses for which this data is relevant.

3.2 Descriptive Statistics

Demographic characteristics of the sample were shown in Table 2.1. An independent samples t-test revealed that the difference in age between in-patient and community based nurses was not significant ($t = -1.05$, $df = 55$, $p > 0.05$) but difference in length of service was significant ($t = -2.38$, $df = 56$, $p < 0.05$, $d = -0.64$). Nurses who were currently based in the community had a significantly longer length of service than in-patient nurses. This is reflective of the requirement for community nurses to have previously worked in in-patient settings before applying for community based jobs.

A cross-tabulation was conducted in order to ascertain how many in-patient and community based nurses completed the workplace and non-workplace vignettes. Fourteen in-patient nurses (24%) received the workplace vignette and fifteen in-patient nurses (26%) received the non-workplace vignette. Fifteen community based nurses (26%) received the workplace vignette and fourteen (24%) received the non-workplace vignette. This shows that the number of each type of nurse receiving each vignette was approximately equal indicating that the distribution of the vignettes would not confound, or bias the results.

3.2.1 Attribution Data

Figures 3.1, 3.2, and 3.3 respectively show the attribution data for locus, control and stability.

Figure 3.1: Bar graph showing frequency of baseline locus attribution ratings

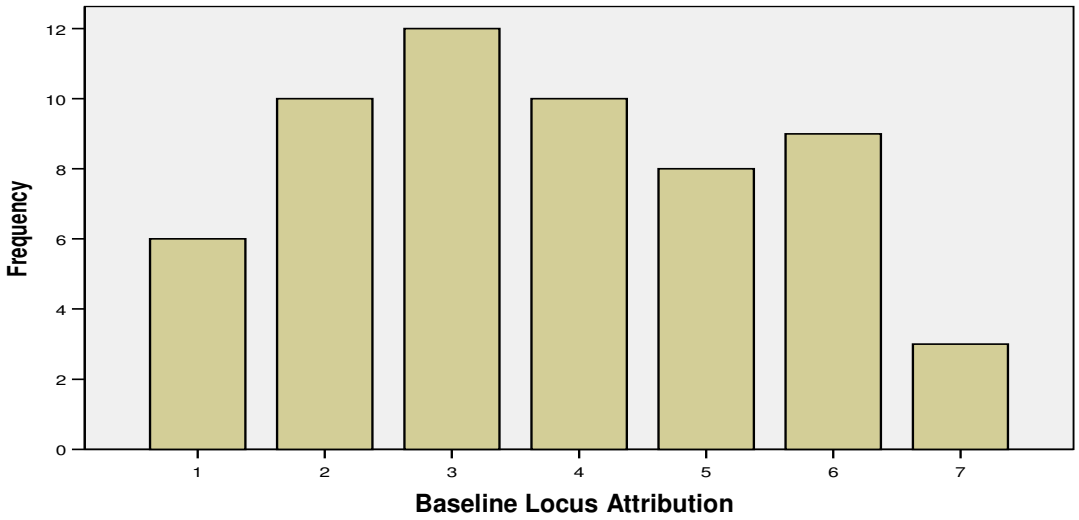


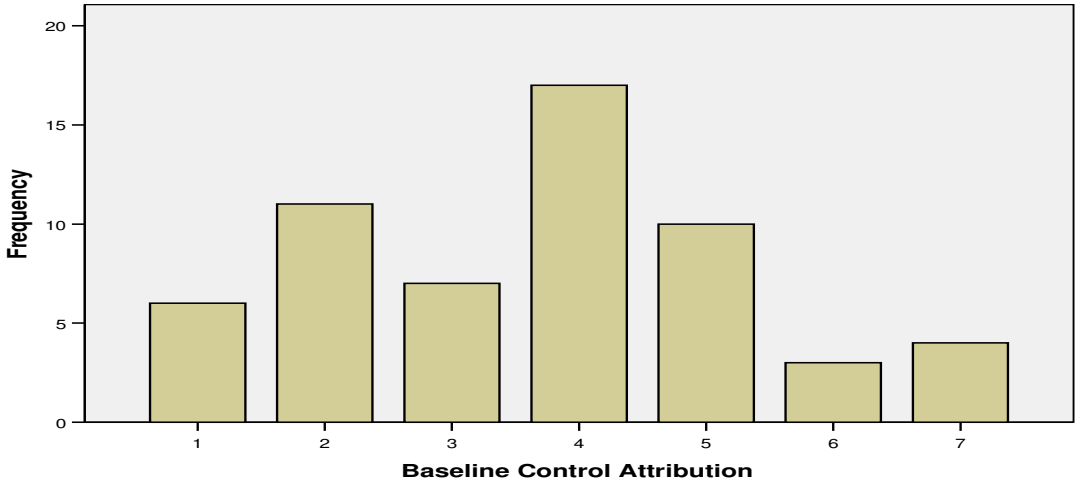
Figure 3.1 shows that 28 (48.3%) participants made dispositional attributions (i.e. scores 1, 2 or 3) and 20 (34.5%) participants made situational attributions (i.e. scores 5, 6 or 7). Ten (17.2%) participants made neutral attributions (i.e. score of 4). The mean for the locus attribution was 3.74 (SD = 1.74), which fell towards the dispositional end of the scale.

Pearson product moment correlations revealed that baseline locus attributions were not associated with age (r = .16, p > 0.05, two-tailed) or length of service (r = -.04, p > 0.05, two-tailed). An independent samples t-test revealed that there was no difference in attributions for locus depending on whether the participants worked in an in-patient or community setting (t = 0.22, df = 56, p > 0.05, two-tailed; d = 0.06).

Figure 3.2 shows that 24 (41.4%) participants made attributions that were high for control (dispositional attribution with a score of 1, 2 or 3) and 17 (29.3%) participants

made attributions that were low for control (situational attribution with a score of 5, 6 or 7). A further 17 (29.3%) participants made a neutral attribution for control (i.e. a score of 4). The mean for the control attributions was 3.67 (SD = 1.66) which fell towards the dispositional end of the scale.

Figure 3.2: Bar graph showing frequency of baseline control attribution ratings

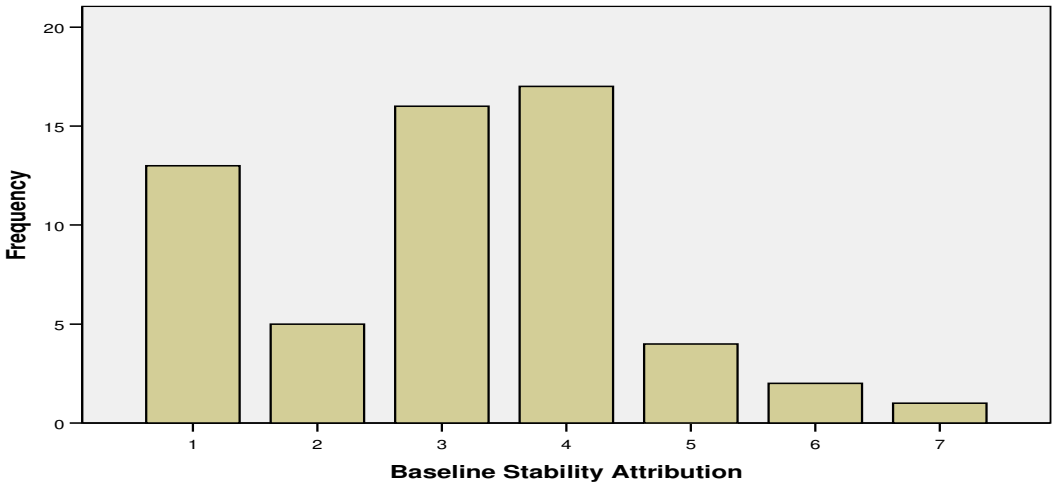


Pearson product moment correlations revealed that baseline control attributions were not associated with age (r = .08, p > 0.05, two-tailed) or length of service (r = .11, p > 0.05, two-tailed). An independent samples t-test revealed that there was no difference in attributions for control depending on whether the participants worked in an in-patient or community setting (t = -0.55, df = 56, p > 0.05, two-tailed; d = -0.15).

Figure 3.3 shows that 34 (58.6%) participants made attributions that were low in stability (situational attribution with a score of 1, 2 or 3) and 7 (12.1%) participants made attributions that were high in stability (dispositional attribution with a score of 5, 6 or 7). Neutral attributions for stability were made by 17 (29.3%) participants (i.e. a

score of 4). The mean for the stability attributions was 3.07 (SD = 1.47), which fell towards the unstable, or situational end of the scale.

Figure 3.3: Bar graph showing frequency of baseline stability attribution ratings

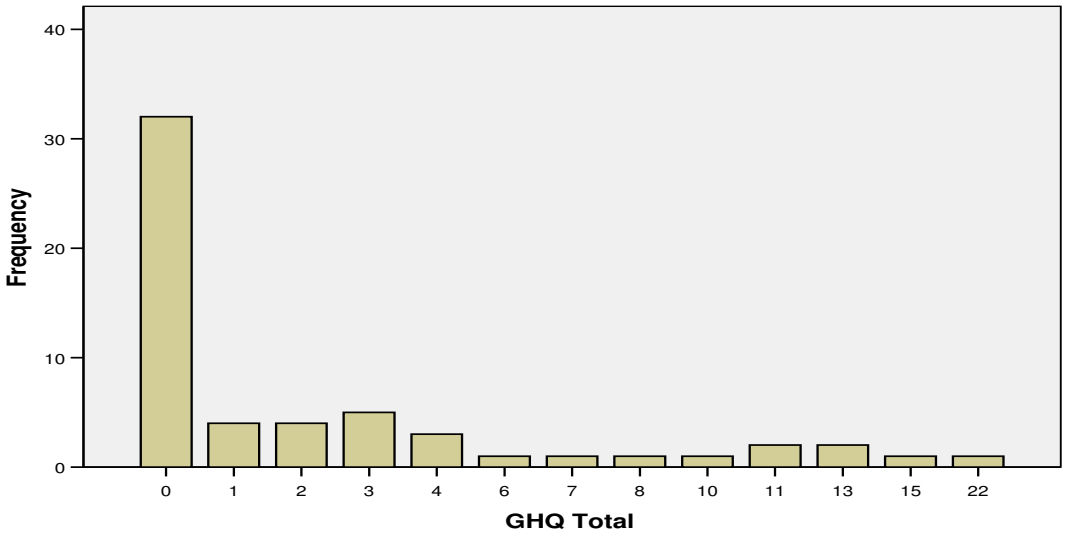


Pearson product moment correlational analysis revealed that baseline stability attributions were not associated with age (r = .07, p > 0.05, two-tailed) or length of service (r = 0.01, p > 0.05, two-tailed). An independent samples t-test revealed that there was no difference in attributions for stability depending on whether the participants were based in in-patient or community settings (t = -.89, df = 56, p > 0.05, two-tailed; d = -0.24).

3.2.2 *General Health Data*

It can be seen from Figure 3.4 that 10 (17%) cases from this non-clinical sample met the criteria for the presence of a minor mental health problem as measured using the GHQ-28 (i.e. total score above the threshold of 6).

Figure 3.4: Bar graph showing frequency of GHQ total scores.



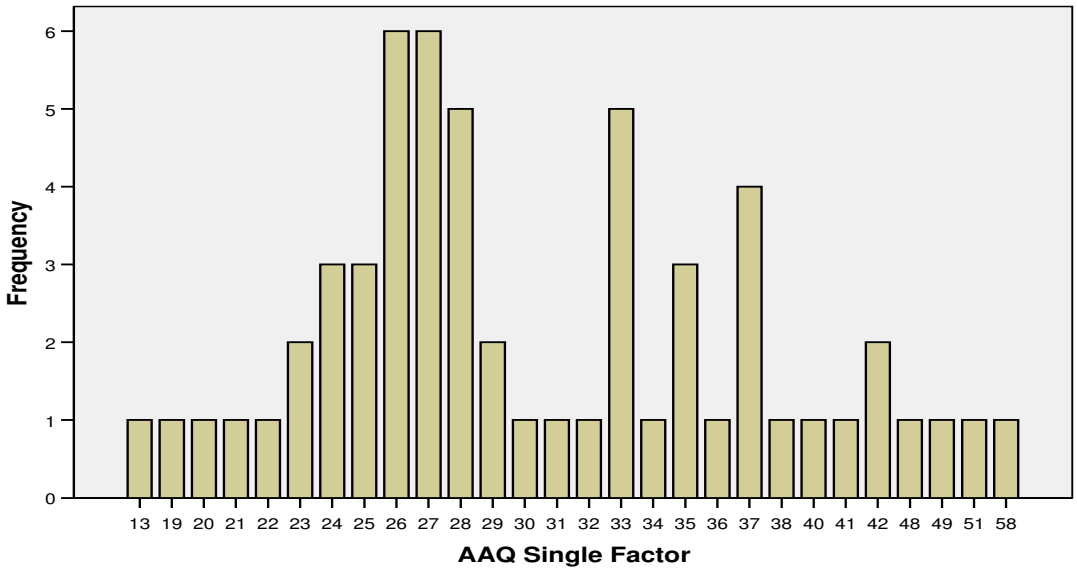
General health was not associated with age, or length of service (Spearman's Rho = -.03 and -.03 respectively). General health differed significantly when the location in which participant's worked was taken into consideration. In-patient psychiatric nurses (n = 29) reported better general health than community psychiatric nurses (n = 29) (Mann-Whitney U = 291, z = -2.21, $p < 0.05$, two-tailed).

3.2.3 Experiential Avoidance Data

The data from the Acceptance and Action Questionnaire (AAQ-II; Hayes *et al.*, 2004) is presented in Figure 3.5. There are no published threshold values for this scale. The maximum total score is 70 so an arbitrary cut-off point of 35 was used. The mean score

for the sample was 30.93 (SD = 8.29) indicating that the present sample showed greater levels of acceptance and action rather than experiential avoidance and immobility.

Figure 3.5: Bar graph showing frequency of scores from the AAQ-II



There was no association between experiential avoidance and age (r = -.03, p > 0.05) and length of service (r = -.05, p > 0.05). An independent samples t-test revealed that there was no difference in experiential avoidance depending on whether the participants worked in an in-patient or community setting (t = 0.09, df = 56, p > 0.05, two-tailed; d = 0.02).

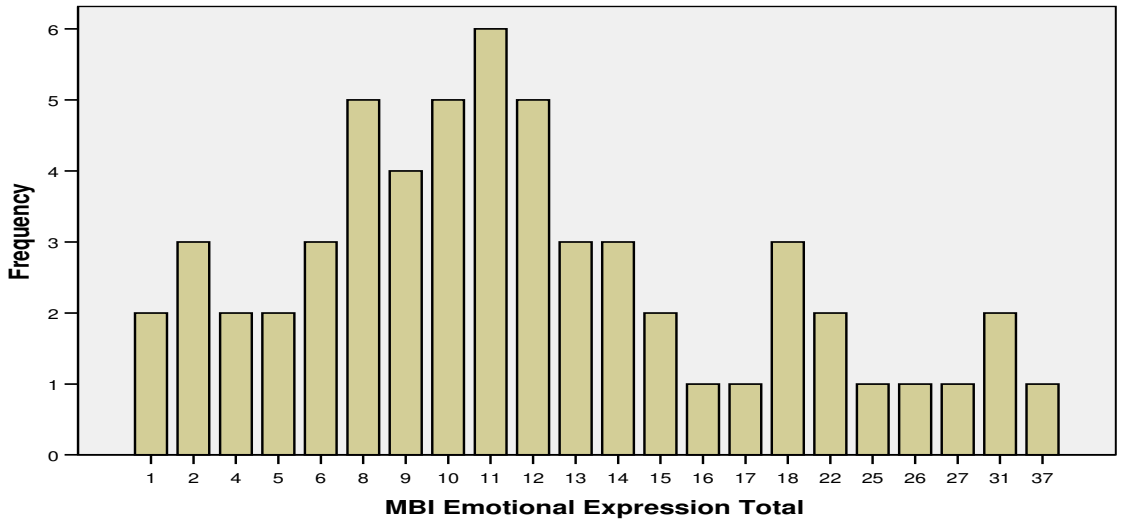
3.2.4 Burnout Data

3.2.4.1 Emotional Expression sub-scale

It can be seen from Figure 3.6 below that 8 cases (14%) met the criteria for an average degree of burnout (i.e. score between 17 and 26), and 4 cases (7%) met the criteria for a high degree of burnout (score of 27 and above). Although it can be seen that this data is

skewed, the Kolmogorov-Smirnov test was not significant for any of the MBI-HSS sub-scales. The mean for the Emotional Expression sub-scale was 11.53 (SD = 7.27) which is considered to be "low" (i.e. score between 0 and 16).

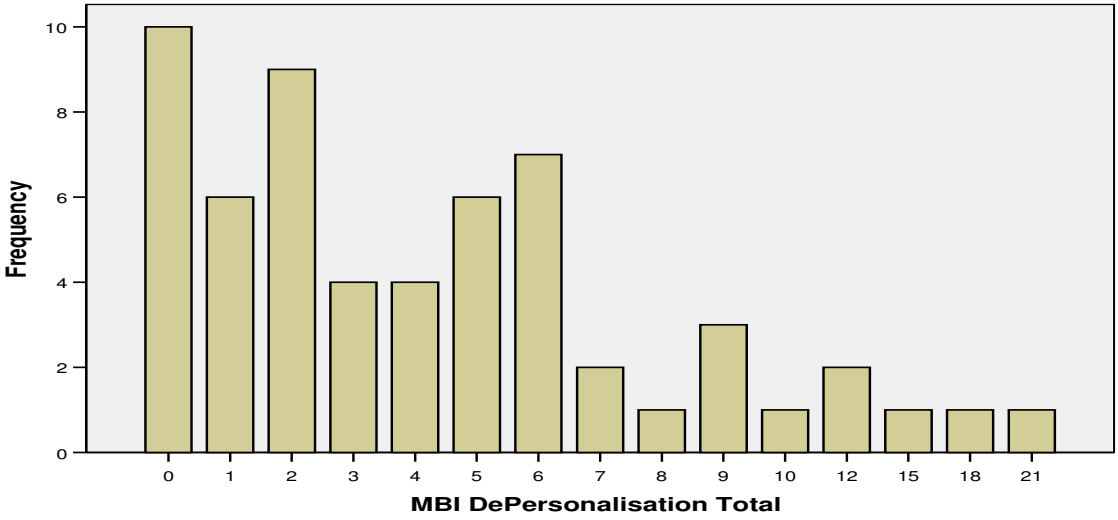
Figure 3.6: Bar graph showing frequency of total scores from the Emotional Expression sub-scale of the MBI.



3.2.4.2 Depersonalisation sub-scale

Figure 3.7 shows that 9 cases (15%) met the criteria for an average degree of burnout (i.e. score 7 to 12) and 3 cases (5%) met the criteria for a high degree of burnout (i.e. score 13 and above). The mean for the Depersonalisation sub-scale was 4.31 (SD = 4.48) with the majority of scores between 0 and 9. The Depersonalisation score for the present sample is best described as "low" (i.e. score between 0 and 6).

Figure 3.7: Bar graph showing the frequency of score from the Depersonalisation sub-scale of the MBI.



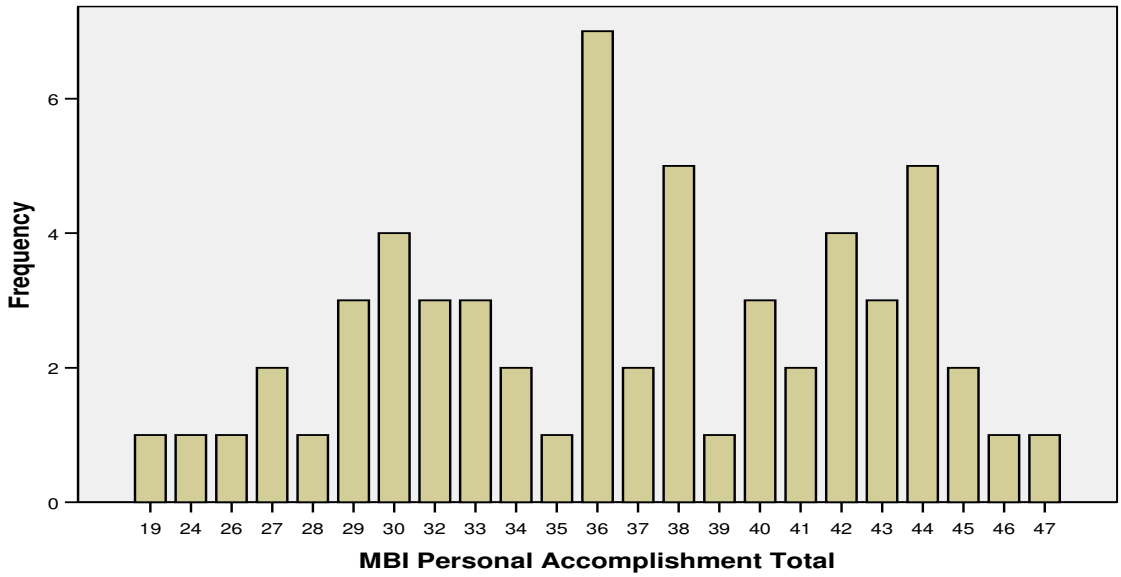
3.2.4.2 Personal Accomplishment sub-scale

Figure 3.8 shows that 23 cases (39.6%) met the criteria for an average degree of burnout (i.e. score between 32 and 38), and 13 cases (22%) met the criteria for a high degree of burnout (i.e. score between 0 and 31). The mean for this sub-scale was 36.81 (SD = 6.33), which would be classified as "average" (i.e. score between 32 and 38).

Taking all three sub-scales into consideration, the present sample is best described as having a low to average degree of burnout.

Pearson's product moment correlational analysis revealed that burnout was not related to age (EE: $r = -.09$, $p > 0.05$; DP: $r = -.18$, $p > 0.05$; PA: $r = .06$, $p > 0.05$) or length of service (EE: $r = -.07$, $p > 0.05$; DP: $r = -.08$, $p > 0.05$; PA: $r = .18$, $p > 0.05$).

Figure 3.8: Bar graph showing frequency of scores from the Personal Accomplishment sub-scale of the MBI.



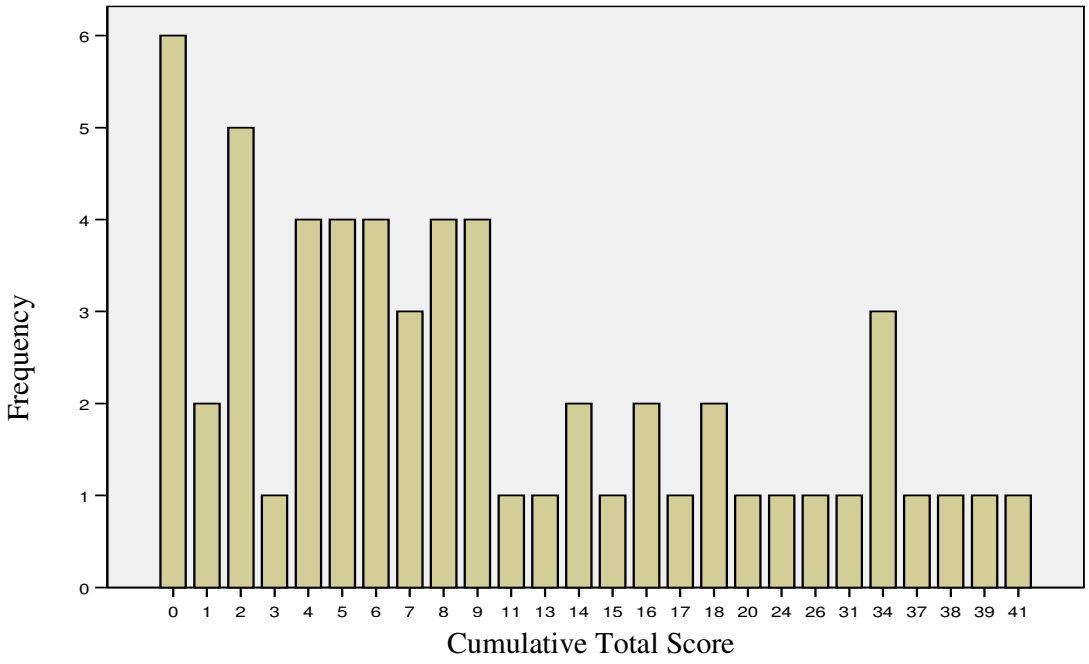
Independent samples t-tests revealed that there was no difference in burnout depending on whether the respondent currently worked in an in-patient ward or in the community (EE: t = -.22, df = 56, p > 0.05, two-tailed, *d* = -0.06; DP: t = 1.38, df = 56, p > 0.05, two-tailed, *d* = 0.37; PA: t = -.56, df = 56, p > 0.05, two-tailed, *d* = -0.15).

3.2.5 Recent Exposure to Aggression Data

3.2.5.1 Incidents and Witnessed Incidents sub-scales

Taken individually, total scores for the EAVS Incidents and EAVS Witnessed sub-scales were low. Data for recent exposure to aggression was defined as a combination of both these sub-scales (Exposure Total). The data is presented in Figure 3.9.

Figure 3.9: Bar Graph showing total recent exposure to aggression



This data was not normally distributed. Recent exposure to aggression was independent of age, and length of service (respectively, Spearman's Rho = -.05, $p > 0.05$, two-tailed, and Spearman's Rho = -.13, $p > 0.05$, two-tailed). There was a significant effect of whether the respondent worked in an in-patient or community setting (Mann-Whitney U = 76, z = -5.37, p = 0.000, two-tailed) with in-patient nurses reporting significantly higher recent exposure to aggression.

3.2.5.2 Support sub-scale

The data from the support sub-scale of the EAVS revealed that 38 (65.5%) participants reported that they felt supported by colleagues and managers in the aftermath of patient aggression (i.e. score of 11 to 20) and 8 (13.8%) participants reported that they did not feel supported under the same circumstances (i.e. score of 1 to 9). A further 4 (6.9%)

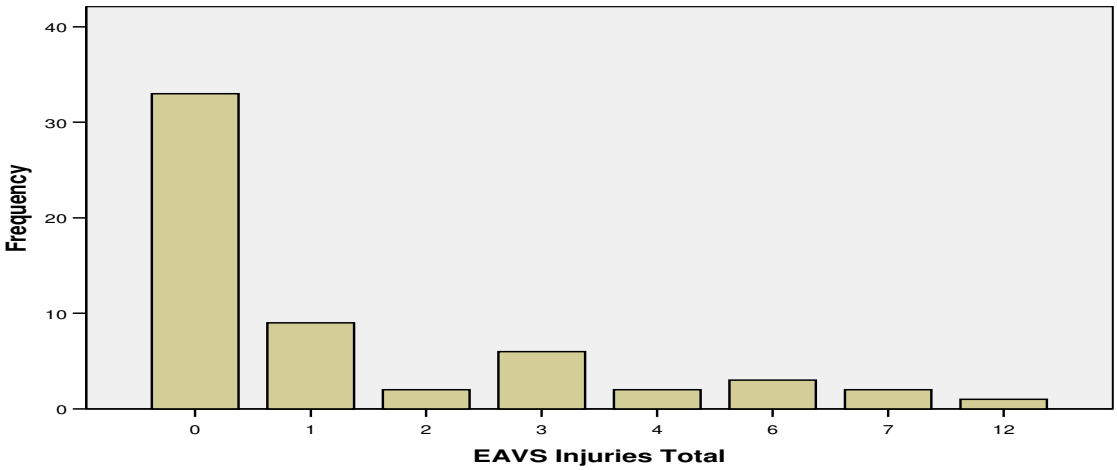
participants reported that they felt neither supported nor unsupported (i.e. a score of 10). The data was missing for a further 8 (13.8%) participants.

Support was not related to age or length of service (Spearman's Rho = .17 and .11 respectively). There was no difference in support received depending on whether participants worked in an in-patient or community setting (Mann-Whitney U = 297.5, z = -.28, $p > 0.05$, two-tailed).

3.2.5.3 Injuries sub-scale

The data from the Injuries sub-scale of the EAVS is shown in Figure 3.10. It revealed that 33 (56.9%) participants reported never having received any form of physical or emotional injury as a result of patient aggression. The remaining 25 (43.1%) participants reported that they had received some form of injury on one or more occasion. Injuries included physical injuries not requiring medical attention (10 participants), minor physical injuries requiring some medical attention (5 participants), minor emotional trauma that did not require treatment (21 participants), and emotional trauma that did require some treatment (3 participants).

Figure 3.10: Bar graph showing frequency of total number of injuries reported as a result of patient aggression

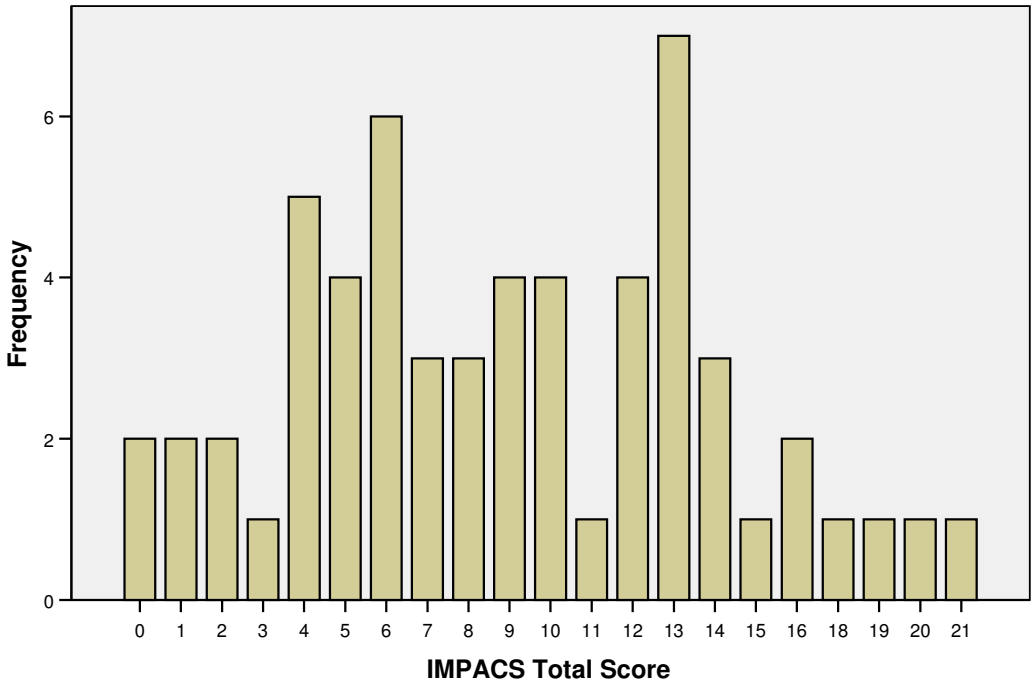


Age and length of service were not related to injuries reported (Spearman's Rho = .16 and -.03 respectively). There was no difference in reported injuries depending on whether participants worked in an in-patient or community setting (Mann-Whitney U = 400, z = -.35, $p > 0.05$, two-tailed).

3.2.6 Impact of Patient Aggression Data

The data from the IMPACS is shown in Figure 3.11. There are no published threshold values for this scale so an arbitrary cut-off of 20, which is the mid-point of the scale was chosen. Figure 3.10 shows that 56 (96.6%) participants scored below 20 and 2 (3.4%) participants scored 20 or above, which is indicative of a greater negative impact of patient aggression. The mean score for the sample was 9.02 (SD = 5.12).

Figure 3.11: Bar graph showing frequency of total scores from the IMPACS



Pearson's product moment correlational analysis revealed that there was no association between the impact of patient aggression and age (r = -.02, p > 0.05) or length of service (r = -.08, p > 0.05). The difference in scores for in-patient compared to community based nurses was not significant according to an independent samples t-test (t = 0.08, df = 56, p > 0.05, two-tailed; d = 0.02).

3.3 Inferential Statistics

3.3.1 Hypotheses 1 and 2

Hypothesis 1 stated that the introduction of new information would result in attributions becoming more dispositional (one-tailed hypothesis). Hypothesis 2 stated that there will be an effect of the setting of the aggressive incident upon attributions (one-tailed). Specifically, where the setting was an in-patient ward, attributions would be situational. The mean attribution ratings for each setting are presented in Table 3.1.

Table 3.1: Mean attribution ratings with standard deviation in parenthesis at baseline and after the presentation of each new piece of information, for each vignette setting.

	Locus		Control		Stability	
Vignette (Incident) Setting	IP	Comm	IP	Comm	IP	Comm
Baseline	*4.31 (1.65)*	*3.17 (1.67)*	*3.34 (1.63)*	*4.00 (1.65)*	*2.69 (1.56)*	*3.45 (1.30)*
History of Aggression	*4.00 (1.79)*	*3.03 (1.27)*	*3.93 (1.71)*	*4.28 (1.46)*	*3.00 (1.98)*	*3.28 (1.67)*
Diagnosis of Schizophrenia	*4.34 (1.65)*	*3.79 (1.52)*	*4.24 (1.64)*	*4.59 (1.48)*	*3.00 (2.04)*	*2.93 (1.51)*
Substance Misuse	*4.03 (1.72)*	*2.93 (1.19)*	*3.83 (1.75)*	*4.10 (1.50)*	*2.69 (1.76)*	*3.38 (1.68)*

These hypotheses were tested using three separate mixed model analysis of variance (ANOVA) for locus, control, and stability attributions independently. Nurse's attributions (within-participants factor) were tested at four time periods: at baseline, and after learning information about history of aggression, diagnosis of schizophrenia, and history of substance misuse. The between-participants factor was the setting of the vignette (workplace V non-workplace).

3.3.1.1 Main Effects and Interactions

The main effects and interactions detected by the mixed ANOVAs for each attribution are shown in Tables 3.2, 3.3, and 3.4.

Table 3.2: Main effects and interactions for locus attributions.

	F	df	p
Effect of vignette setting	7.34	1	0.009*
Effect of new information	4.35	2.45	0.01*
Interaction of setting and information	1.08	2.45	0.35

* Significant at $p < 0.01$

It can be seen that for attributions for locus, there was a significant effect of incident setting and new information but there was no significant interaction between incident setting and the impact of new information.

Table 3.3: Main effects and interactions for control attributions.

	F	df	p
Effect of vignette setting	1.14	1	0.29
Effect of new information	8.44	2.21	0.000*
Interaction of setting and information	0.64	2.21	0.54

* Significant at $p < 0.01$

For attributions for control, there was no significant effect of incident setting but there was a significant effect of new information. The interaction between setting and new information was not significant.

Table 3.4: Main effects and interactions for stability attributions.

	F	df	p
Effect of vignette setting	1.17	1	0.28
Effect of new information	0.29	2.64	0.81
Interaction of setting and information	2.10	2.64	0.11

For attributions for stability, there was no significant effect of incident setting or new information. The interaction between setting and new information was not significant.

3.3.1.2 Post-hoc comparisons

Post-hoc analyses were not conducted using the SPSS software package because there are fewer than three independent groups. In order to detect which piece(s) of information were responsible for the observed changes in attributions, a series of paired samples t-tests were conducted. Given that there was no interaction between incident setting and new information upon attributions, post-hoc analysis was conducted with the whole sample.

For attributions for locus, new information had no effect on baseline attributions (History of aggression: *t = 1.25, df = 57, p = 0.22;* Diagnosis: *t = -1.48, df = 57, p = 0.14;* Substance misuse: *t = 1.32, df = 57, p = 0.19*). There was however a significant difference between the information about diagnosis and history of aggression *(t = -2.97, df = 57, p = 0.004; d = -0.79)*, and diagnosis and history of substance misuse *(t = 4.28, df = 57, p = 0.000; d = 1.13)*, but these differences are not relevant to the hypothesis.

For attributions for control, the *post-hoc* comparisons indicate that information about history of aggression *(t = -2.41, df = 57, p = 0.02; d = 0.26)* and diagnosis of schizophrenia *(t = -4.19, df = 57, p = 0.000; d = 0.46)* were associated with a significant change in attribution ratings from baseline. Specifically, information about history of aggression and diagnosis of schizophrenia caused attributions to become more situational i.e. the perpetrator was seen to have less control over their actions.

Given that multiple comparisons were conducted the risk of committing a Type I error is inflated. In order to control for Type I error, a Bonferroni correction was applied manually by dividing the alpha level by the number of comparisons being made. In this case, three comparisons were made for each individual attribution (locus, control and stability) (baseline with information about history of aggression, baseline with information about diagnosis of schizophrenia, and baseline with information about history of substance misuse) indicating that in order to be confident that a Type I error was not made, the p-value must be less than or equal to 0.016 (0.05/3 = 0.016). Applying this correction indicates that it can be stated with confidence that information about diagnosis of schizophrenia was responsible for the change in attributions for control.

With regards to the data on incident setting *post-hoc* analysis using independent samples t-tests revealed that the significant effect of vignette setting affected the baseline ratings of locus *($t = -2.61$, $df = 56$, $p = 0.012$; $d = -0.69$)* and stability attributions *($t = 2.01$, $df = 56$, $p = 0.05$; $d = 0.54$)*, but not control attributions. Applying the Bonferroni correction ($p \leq 0.016$) revealed that it is highly unlikely that the effect on attributions for locus occurred by chance, but the same cannot be said for the attributions for stability. Where the setting of the aggressive incident was within the workplace (an in-patient ward environment), attributions were situational and unstable. Where the setting of the incident was out-with the workplace (in a shopping centre), attributions for locus were dispositional and attributions for stability were less

situational than in the workplace, but these did not cross the threshold to be considered dispositional.

3.3.2 Hypothesis 3

Hypothesis 3 stated that there will be a relationship between previous exposure to aggression and situational attributions (one-tailed).

The data for exposure to aggression was not normally distributed ($Z = 1.73$, $p < 0.01$) therefore it was not appropriate to perform a correlation with a normally distributed variable (baseline attributions). In order to test this hypothesis in a meaningful way, the data for recent exposure to aggression was dichotomised into two independent groups, using the median (7.50) as the cut-off. "Low" exposure was defined as cases where the cumulative recent exposure to aggression score totalled 7 or less (n = 29). "High" exposure was defined as cases with a cumulative recent exposure score of 8 or more (n = 29). Independent samples t-tests were used to test whether or not there was a difference in baseline attributions that was caused by exposure to aggression. The results are shown in table 3.5 where it can be seen that there were no significant effects of recent exposure to aggression upon attributions.

Table 3.5: Mean baseline attribution ratings with standard deviation in parenthesis for low and high recent exposure to aggression groups.

	Low Exposure	High Exposure
Locus	*3.59 (1.82)*	*3.90 (1.68)*
Control	*3.52 (1.59)*	*3.83 (1.73)*
Stability	*3.00 (1.41)*	*3.14 (1.55)*

3.3.3 Hypothesis 4

Hypothesis 4 stated that there will be a relationship between dispositional attributions and general well-being. General well-being was measured using the General Health Questionnaire (GHQ-28) and the Human Services Survey (MBI-HSS). Four hierarchical multiple regression analyses were used to test the degree to which baseline attributions (the explanatory variables) contributed to variations in the well-being data, defined as general health and emotional expression, depersonalisation, and personal accomplishment (the three sub-scales of the MBI-HSS) (the dependent variables). A summary of the results is shown in Table 3.6 and a full copy of the regression models can be found in Appendix D.

Table 3.6: Summary of results from multiple regression analyses for baseline attribution ratings against general health and burnout.

	R	***R²***	**Adjusted *R²***	**B (SE)**	***ß***	***F Change***
GHQ						
Locus	*0.15*	*0.02*	*0.006*	*-0.41 (0.35)*	*-.15*	*1.35*
Control	*0.20*	*0.04*	*0.007*	*-0.38 (0.38)*	*-.14*	*1.03*
Stability	*0.32*	*0.09*	*0.049*	*0.94 (0.50)*	*.29*	*3.46*
EE						
Locus	*0.22*	*0.02*	*0.00*	*-0.58 (0.58)*	*-.13*	*0.99*
Control	*0.22*	*0.05*	*0.02*	*0.83 (0.62)*	*.18*	*1.84*
Stability	*0.35*	*0.12*	*0.07*	*1.72 (0.82)*	*.33*	*4.42**
DP						
Locus	*0.14*	*0.02*	*0.001*	*-0.35 (0.34)*	*-.14*	*1.05*
Control	*0.19*	*0.04*	*0.003*	*0.38 (0.37)*	*.14*	*1.11*
Stability	*0.23*	*0.05*	*-0.001*	*0.45 (0.45)*	*.15*	*0.81*
PA						
Locus	*0.06*	*0.004*	*-0.01*	*-0.22 (0.48)*	*-.06*	*0.22*
Control	*0.17*	*0.03*	*-0.01*	*-0.62 (0.51)*	*-.16*	*1.45*
Stability	*0.28*	*0.08*	*0.03*	*-1.14 (-0.69)*	*-.27*	*2.75*

* Significant (p = 0.04)

The results indicate that baseline attributions fail to explain significant proportions of variance in the GHQ-28 (general health) data. The R^2 values shown in the table indicate that for the general health data, attributions for locus explain just 2% of the variance *(R^2 = 0.02)*, attributions for control explain 4% *(R^2 = 0.04)*, and attributions for stability explain 9% *(R^2 = 0.09)*. Attributions are therefore not predictive of general health.

With reference to the burnout data, attributions for stability account for a significant proportion of the variance on the Emotional Expression sub-scale *(β = .33, F = 2.48, p = 0.04)* indicating that stable attributions are associated with poorer emotional coping at work. Stable attributions accounted for 12% of the variance in this sample *(R^2 = 0.12)*. There were no significant effects detected for attributions against the Depersonalisation sub-scale or the Personal Accomplishment sub-scale.

3.3.5 Hypothesis 5

Hypothesis 5 stated that there would be a correlation between dispositional attributions, recent exposure to aggression, experiential avoidance, and general health (one-tailed). Baseline attributions, total recent exposure to aggression, AAQ-2, IMPACS, GHQ-28 Total, and MBI-HSS data were correlated. As some of the data were normally distributed and some of the data were not, non-parametric (Spearman's Rho) correlations were used. Owing to the large number of contrasts involved in the testing of this hypothesis, the results shown in Tables 3.7a and 3.7b are situated in Appendix E. The risk of Type I error is greatly inflated with such a large number of contrasts,

therefore the conservative measure of only considering contrasts that are significant at the 0.01 level, has been taken.

The Acceptance and Action Questionnaire correlated significantly with emotional expression (r_s = .56, p < 0.01) and depersonalisation (r_s = .47, p < 0.01); general health (r_s = .29, p < 0.05); and the IMPACS A scale (Impairment of relationship between patient and caregiver) (r_s = .37, p < 0.01). A more avoidant coping style is associated with poorer emotional coping at work, more negative and cynical attitudes towards patients, poorer general health, and a greater negative impact on the nurse, specifically a perceived impairment in the relationship between the carer and the aggressive patient.

The total score from the IMPACS correlated significantly with control (r_s = .34, p < 0.01). Perceptions of patient aggression as being under lower levels of control are associated with a greater negative impact. The IMPACS Total also correlated positively with the EE and DP sub-scales of the MBI-HSS (EE: r_s = .40, p < 0.01; DP: r_s = .47, p < 0.01). The negative correlation with the PA sub-scale was significant at the 0.05 level (r_s = -.30, p < 0.05). A greater negative impact of patient aggression is moderately associated with burnout.

In examining the nature of these relationships further, the sub-scales of the IMPACS also correlated with a number of factors. The IMPACS A (Impairment of relationship between patient and caregiver) sub-scale correlated with all sub-scales of the MBI-HSS (EE: r_s = .42, p < 0.01; DP: r_s = .42, p < 0.01; PA: r_s = -.39, p < 0.01). A perceived

impairment in the relationship between carer and aggressive patients is associated with burnout.

The IMPACS B (Adverse moral emotions) sub-scale correlated significantly with control attributions (r_s = .32, p < 0.01) and the DP sub-scale of the MBI-HSS (r_s = .31, p < 0.01). These correlations indicate that feeling sorry for the patient, feeling like a failure, and feelings of guilt and shame at work are associated with perceptions of lower levels of control on the part of the aggressive patient, and more negative and cynical attitudes towards the patient.

In addition to the correlations described above, table 3.5b shows significant correlations between the EAVS Injuries sub-scale and avoidance (r_s = .31, p < 0.01), Emotional Expression (r_s = .32, p < 0.01), and GHQ Total (r_s = .35, p < 0.01). The more injuries that are sustained from patient aggression, the greater the levels of avoidance, poorer emotional coping at work, and poorer general health. There was also a correlation between the EAVS Witnessed sub-scale and depersonalisation (r_s = .32, p < 0.01), and EAVS Incidents (r_s = .82, p < 0.01). This indicates that there is a strong relationship between being involved in incidents of patient aggression and witnessing it happening to others, and that witnessing patient aggression directed towards someone else also contributes to the development of negative and cynical attitudes towards patients.

CHAPTER 4

DISCUSSION

DISCUSSION

4.1 Overview

The main aim of this study was to investigate the impact of new information upon attributions made by psychiatric nurses about patient aggression. The effect of the setting of an aggressive incident and previous exposure to aggression was also investigated in relation to attributions made about aggression. The secondary aim of the study was to explore the nature of the relationships between attributions about aggression, previous exposure to aggression, general health, burnout, the negative consequences upon nurses of patient aggression, and the way in which nurses relate to such negative experiences.

4.2 Interpretation of the data

4.2.1 Hypothesis 1

Before new information was presented, nurses' attributions favoured the influence of personal rather than situational characteristics in explaining patient aggression (consistent with the fundamental attribution error; Heider, 1956) and believed that aggression was within the control of the patient, but considered that the likelihood of aggression occurring again in the future would vary as a result of situational factors i.e. it was unstable. This could be taken to indicate that nurses' believe that a patient may have a propensity to behave in an aggressive manner which is activated when certain setting conditions / environmental determinants / situational factors are present. The identification of such patterns and triggers to aggression forms an integral part of the

work of psychiatry staff in forming risk management plans aimed at reducing the occurrence of patient aggression.

According to the analysis that was conducted for attributions for locus, there was a significant effect of new information. However, *post-hoc* analysis revealed that the difference was found in the contrasts between the information about diagnosis of schizophrenia and history of aggression, and diagnosis and history of substance misuse. These contrasts were not relevant to the testing of the hypothesis and could thus be considered an artefact of the method of analysis rather than a true effect of new information in changing beliefs about patient aggression.

Information about history of aggression and a diagnosis of schizophrenia produced significant changes in attributions for control over aggression. Psychiatric nurses viewed patients as having less control over their actions once they learned this information. This can be understood by considering theories of causation of psychiatric disorder. For example, there is a strong genetic component in schizophrenia (Kallmann, 1994), which suggests that for most people with schizophrenia, a biological vulnerability that is out-with the control of the patient, is largely responsible for the development of the disorder. On the other hand, if for example, a diagnosis of a drug-induced psychosis were given, the factors leading to the development of that disorder, i.e. the excessive and prolonged consumption of psychoactive substances could be seen as having been a choice that was within the control of the patient. Thus, it would be worth investigating whether the choice of diagnostic information that is presented to participants results in different attributions for control over aggression.

The influence of information about history of aggression upon attributions for control may partially be explained by the strong link between a diagnosis of schizophrenia and aggressive behaviour (Grassi *et al.*, 2001; Chen *et al.*, 2005 and others). Thus, if schizophrenia is seen as uncontrollable, previous and current aggression may also be seen as less controllable. Twenty-three of the fifty-eight participants (39%) received the information about diagnosis after the information about history of aggression meaning that unless these participants had disobeyed instructions to complete the tasks in the order of presentation, they should not have been able to make the link between diagnosis of schizophrenia and increased risk of aggression. So the relationship between the two pieces of information must be more complex. The attribution ratings only tapped into the end product of a cognitive process, which was unavoidable despite participants being asked not to spend too long thinking about their answers. The geographical area in which the study took place is widely considered to be a deprived area. Scottish Executive (2006) statistics indicate that 30% of the area covered by the local authority (i.e. a city population) has a high concentration of areas with multiple sources of deprivation (most notable deprivation in the areas of education and income). It is feasible that nurse's perceived a history of aggression to be indicative of poor coping skills on the part of the patient, which in turn may have been associated with a disadvantaged or deprived background that is seen to result from factors that the patient was not and is not able to control. This raises the importance of further examining the cognitive process undertaken when making attributions about patient aggression, rather than simply measuring the end product of a process. The specific question raised here

is how nurse perceptions of patient's coping skills would impact upon attributions made about patient aggression.

Deleted section re non-significant changes.

Where changes in attributions for control were significant, it is worth observing that they did not change much beyond the neutral point on the scale. This is consistent with other research on attributions using the same seven-point scale as the measure of attributions (Tynan & Allen, 2002; Dagnan & Weston, 2006), where scores tend to cluster around the neutral point of the scale. This suggests that the extent to which psychiatric nurses beliefs about patient aggression are amenable to change is rather limited. This could be explained in terms of nurse's expectations about patient aggression. Most notable is the expectation that patient aggression is an integral part of the role of being a psychiatric nurse (Poster, 1996; Lanza *et al.*, 2006). The implication is that nurses' may think that irrespective of what they do or how they perceive and react to it, aggression will occur and they will still be required to cope with it according to the manner in which they have been trained. In addition, they will still be expected to provide care for the aggressor. They may be able to avoid contact with the patient for a short period of time, but there is no clear escape option. For people who have been exposed to aggression but do not have to have continued contact with their aggressor, the impact of aggression is likely to consist of taking steps to reduce the likelihood of exposure to such risks; this is not possible for psychiatric nurses who are expected to continue with their job, and therefore exposure to the risk of aggression from patients continues. It is then feasible that by not thinking too much or being influenced by new

information, nurses are attempting to protect themselves or conserve cognitive and emotional energy resources. Exploring how nurses cope with this difficult situation could yield some important insights into why the learning of new information did not have as large an effect as was predicted.

Another possibility in seeking to explain these findings lies with Weiner's (1995) suggestion that attributions are more likely to be made for unexpected, novel, or potentially threatening situations than they are for routine or expected situations. Psychiatric nurses expectations of aggression from patients (Poster, 1996; Lanza *et al.*, 1997) indicate that patient aggression is not unexpected or novel and this may have overshadowed the process of making attributions. This could explain both the limited effects of new information and the clustering of the attribution ratings around the neutral point on the scale. However, the perception of threat is a factor that nurses may not be able to predict or expect and this may well be a key factor in determining that the attribution process continues to take place. Perception of threat was not measured in this study and thus opens another avenue for further investigation.

It is interesting to note the similarities in methodology and results obtained in this study and the study by Tynan and Allen (2002). These authors measured attributions for locus, control and stability across two groups. The independent variable was the severity of the intellectual disability depicted in a vignette about aggression from a service user. The severity of intellectual disability only differentiated attributions for control. Service users with mild intellectual disabilities were perceived to have more control over their actions than service users with severe intellectual disabilities. Locus

and stability attributions were not affected by the degree of cognitive impairment. In the present study, new information for history of aggression and diagnosis of schizophrenia changed attributions for control but not locus or stability. It is interesting that two such similarly designed studies found an effect for attributions of control only. Schizophrenia has been associated with specific cognitive impairments (Neuchterlein *et al.*, 2004), thus is may be that perceived cognitive impairment, or severity of the mental condition (be that intellectual disability or psychiatric diagnosis) is critical in determining attributions for control. This could be explored further by designing a study that directly compares the impact of diagnoses associated with varying degrees of cognitive impairment, for example, schizophrenia and personality disorder.

In the same way that psychiatric nurses expect aggression from patients, care staff working with people with intellectual disabilities would also expect some degree of challenging behaviour from some service users. Thus the similarities in the findings of this study and Tynan and Allen's (2002) study further suggests that attributions do occur in response to expected events and further supports the need for more investigation into the perceptions nurses and care staff have about aggressive service users.

4.2.2 Hypothesis 2

When the setting of the aggressive incident was taken into account, attributions for locus and stability differed significantly. Where it was clear from the setting of the incident that the aggressor was a psychiatric patient, aggression was attributed to situational or environmental influences rather than personal characteristics, and the

likelihood of future aggression was seen to be unstable. Where there were no cues regarding psychiatric status, the converse was true; aggression was attributed to personal characteristics more than situational or environmental influences and the likelihood of future aggression was seen to be more stable. Thus it appears that psychiatric nurses differentiate the way in which they evaluate aggressive behaviour from psychiatric patients and the way in which they evaluate the same behaviour from someone whose psychiatric status in unknown. Specifically, aggression from psychiatric patients is more readily accounted for by situational influences. Psychiatric status appears to reduce the occurrence of the fundamental attribution error.

All participants in this study were familiar with these situational and environmental influences because they all work currently or have worked in in-patient wards before transferring to a community base. In-patient psychiatric wards have been described as high in friction, lacking in privacy (Finnema *et al.*, 1994), inadequately staffed (Lanza, 1983; Kindy *et al.*, 2005), and poorly organised (Duxbury, 2002). It is likely that the participants awareness and memories of these environments served to guide their attributions. This was not measured in this study but would certainly be another avenue worthy of further investigation.

Andersen (2003) and Durivage (1989) highlighted the importance of considering workplace context when examining patient aggression. A poor psychosocial work environment may influence staff stress and burnout, which may in turn contribute to the development of patient aggression (Andersen, 2003). Similarly Durivage (1989) postulated that if medical staff are perceived to be under-involved in the management of

the ward or community team, a "splitting" effect can be created, which negatively impacts upon the cohesion of the staff team. Friction within the staff team could contribute to the occurrence of patient aggression (Finnema *et al.*, 1994). It is possible that awareness and experience of such working environments may translate into a degree of empathy for the in-patient and may partly explain the differences that have been found in this study.

The finding that psychiatric status and setting of an aggressive incident differentiates the way in which psychiatric nurses explain patient aggression is important in a service where a Zero Tolerance approach to patient aggression is at the forefront of policy. Under such policy, any form of patient aggression that is directed towards any member of NHS staff should be reported to the police and criminal charges brought against the patient. The rationale being that such action sends a clear message that aggression is not acceptable and mental health problems or being under the influence of alcohol should not be seen as an abdication of responsibility. However, this study has clearly shown that in a psychiatric setting, attributions made about patient aggression do not fit with such a policy. Patient aggression is seen as a result of the situation and environment in which the patient is placed at the time of an assault (be that physical or verbal) rather than the personal characteristics or intentions of the patient. It can therefore be said that psychiatric nurses perceive the setting of an incident to have had a larger role in causing it to occur than the patient themselves did. This scenario may well create inner-conflict for nursing staff who under a Zero Tolerance policy would be required to pursue prosecutions against aggressive patients whom they may not see as fully responsible for their actions. This may contribute to the under-reporting of patient

aggression. It is necessary to test this further, possibly by ascertaining if other groups of NHS nurses make similar attributions about patient aggression and how this impacts on the reporting of patient aggression. It would be useful to compare the beliefs of psychiatric nurses with other groups of NHS workers who encounter patient aggression with varying frequencies.

4.2.3 Hypothesis 3

There was no effect of previous exposure to patient aggression upon attributions. The findings of this study lend some support to Bowers *et al.* (2007a) who reported that there was no association between arrival of new and inexperienced ward staff (and therefore with little previous exposure to patient aggression) and incident rates. In contrast to the findings of Cunningham *et al.* (2003) and Whittington *et al.*, (1996), no relationship was found between length of service and exposure to aggression. As expected, it was clear that in-patient nurses were exposed to more patient aggression than community based psychiatric nurses (consistent with Poster, 1996; Nolan *et al.*, 1999).

4.2.4 Hypotheses 4 and 5

Nurses' external attributions for locus (viewing the aggression as being due to situational or environmental rather than personal factors) were associated with lower levels of anxiety, and lower levels of anger towards their place of work and society in general. This is consistent with other studies using a sample of psychiatric nurses (Nolan *et al.*, 1999; Chen *et al.*, 2005). Uncontrollable attributions for patient aggression were associated with negative feelings towards patients (consistent and

comparable with Dagnan & Weston (2006) who reported a correlation of 0.36 between attributions for control and feelings of anger, compared with a correlation of 0.31 in this study), and a greater negative impact of their own experiences of patient aggression. Stable views of aggression were associated with poorer emotional coping at work, which is an indicator of burnout. These results are consistent with the findings of Bailey *et al.* (2006) who reported that internal, uncontrollable, and stable attributions were associated with negative emotions, particularly depression and anger in care staff working with people with intellectual disability and challenging behaviour. Translating these findings into everyday language indicates that if a member of staff perceives aggression to be caused by a person who is unable to control their actions and therefore sees the aggression as being likely to occur again, negative emotional experiences such as depression and anger are likely to also be present. These experiences may best be explained in terms of the control and stability aspects of the attributions, which may equate to a sense of helplessness and hopelessness that is commonly associated with these negative emotional states. However, the findings of this and Bailey *et al.*'s study are in contrast to the findings of other studies using a sample of care staff working with people with intellectual disabilities (Stanley & Standen, 2000; Snow *et al.*, 2007).

The positive correlations that were found between the measure of experiential avoidance and general health and burnout support Hayes *et al.* (2004) who reported that an avoidant coping style is associated with a greater degree of psychopathology. In this study, a more avoidant coping style was associated with poorer emotional coping at work, more negative feelings towards patients, and poorer general health. This study also found a weak, positive correlation between avoidance and a perceived impairment

in the relationship between the aggressive patient and the nurse as a carer, as would be expected. In addition to these findings, it was also observed that the measure of acceptance and avoidance produced a greater number of correlations than the measures of the content of attributions. This may indicate that the relationship one holds with one's distressing experiences is a better predictor of emotional and general health status than examining the content or style of attributions about distressing experiences. Further investigation is clearly warranted.

In considering the general health and level of burnout of the sample used in this study, the low numbers of participants scoring above the cut-off points for general health and burnout adequately explains the weak to moderate correlations that were found. However, this was a non-clinical sample yet 17% of the sample did meet the criteria for the presence of a minor mental health problem, which then raises concerns about the quality of care these nurses are able to provide (Arnetz & Arnetz, 2001). Specifically, if they are emotionally unwell they may be more likely to meet the descriptions of nurse factors that have been found to contribute to the onset of patient aggression, for example being unable to listen to or understand patients fully (Finnema *et al.*, 1994).

The low to moderate levels of burnout that characterised this sample replicate the levels reported in the study by Kilfedder *et al.*, (1999) which used a comparable population of psychiatric nurses. However, some potential participants were on sick leave during the period of the study, so did not have the opportunity to participate. Had these nurses been accessible, more participants may have met the criteria for the presence of minor mental health problems and burnout, and perhaps alternative conclusions regarding the

overall health of the sample could be drawn. Accessing this group of nurses would have required specific ethical approval, which was not requested during the planning of this study.

It was not possible to support a model proposed by Hastings (2002) in which exposure to challenging behaviour is thought to lead to negative emotions, which lead to stress, burnout, and avoidance. The measure of exposure used in the present study only correlated with depersonalisation (higher exposure to aggression was associated with more negative and cynical attitudes towards patients). The poor association of exposure to aggression with other facets of this study may be best explained by the measure chosen to assess exposure to aggression, which was a non-validated measure and yielded highly skewed data. Caution is therefore warranted in drawing conclusions based on the exposure to aggression data. This matter is discussed in more detail in section 4.3.2.1 later.

4.3 Characteristics of the data

Before considering whether or not to accept or reject the hypotheses of this study, it must be considered whether or not the analysis that has been conducted in this study can be considered a true test of the hypotheses laid down. Based on the evidence presented below, the analysis that was conducted is considered to be true test of the hypotheses of the study. There are a number of reasons for making this judgement, principally the four inter-related concepts of power, effect size, alpha level, and sample size.

4.3.1 Power Analysis

The importance of power analysis is best explained in terms of obtaining the best balance between the likelihood of making Type I and Type II errors, whilst recognising that the risk of error will continue to exist. A Type I error occurs when a null hypothesis is rejected, when in fact it is true (or the research hypothesis is accepted when it is false), and a Type II error occurs when a null hypothesis is accepted, when in fact it is false (or the research hypothesis is rejected when it is true) (Grimm, 1993). Thus these errors can have significant implications on the conclusions of a study if they occur. The probability of making a Type I error is determined by the alpha level. If alpha is set at 0.05, there is a 5% probability that a Type I error will be made. If alpha were 0.01, there would be a 1% probability that a Type I error would be made, but the likelihood of making a Type II error would increase. The concept of power refers to the likelihood of avoiding a Type II error and the smaller the sample size, the greater the risk of this type of error (Clark-Carter, 2004). Research studies can vary in the sample size upon which conclusions are based, but results can still be meaningfully compared by examining the effect size, that is the magnitude of the result, independent of sample size (Clark-Carter, 2004).

In this study, in order to obtain a balance between the likelihood of making Type I and Type II errors, the power, effect size and alpha level were selected from close examination of other research in the area of attributions for aggression and other forms of challenging behaviour, most notably the study by Tynan and Allen (2002). Thus, the selection of a power of 80%, a medium to large effect size (0.60), and an alpha level of 0.05, was considered to be ecologically valid and conservative as well as conventional.

This increases the ability to compare the results of this study meaningfully with existing research.

A rigorous process of power calculation was undertaken involving the completion of three different *a priori* power calculations in order to ascertain the required sample size to achieve the above aims. Each method produced a different required sample size but this was unsurprising since there are many different programmes and statistical tables available for making such calculations. The range of programmes and tables can therefore be misleading insofar as there are no hard and fast rules about the best method to use. In order to take account of the variation from the three methods used here, the mean was calculated.

While this may be construed as over-cautious, it was recognised that although the population of psychiatric nurses currently working with adults far exceeded the required number, recruitment difficulties are historic. Having the ability to make conclusions that are as accurate as possible (acknowledging that the likelihood of error continues to exist) was considered to be of paramount importance. The procedure adopted was robust and enabled conclusions to be drawn confidently. However, given that the required sample size of 73 participants was not achieved, this study could be considered as under-powered to detect true differences where indeed they exist. In deliberating this matter further, consideration should be given to the difficulty in sourcing robust power calculations for a repeated measures ANOVA, the method by which the main hypothesis of the study was tested. Cohen (1992) reported the required n for independent groups ANOVA, not repeated i.e. dependent, groups. Thus, the

ecologically valid method of examining other relevant and similar research in order to ascertain required sample sizes became a highly important source of information and comparison. The study by Stanley and Standen (2000) employed a repeated measures design successfully with 50 participants. The Tynan and Allen (2002) study was also similar in methodology and used 42 participants. Given that the central aspect of this study was testing the impact of new information on attributions, it can be argued that with 58 participants taking part in this study, it had adequate power to detect true effects and the conclusions made with regard to the main hypothesis can be considered accurate. Further confidence in the conclusions of this study can be gained from the consistent use of the Bonferroni correction as an attempt to control for Type I error.

4.3.2 Skewed Data

In the light of the above, the non-normal distribution of some of the data was unlikely to be due to an inadequate sample size. Although the Kolmogorov-Smirnov test only revealed significant results for the data on general health and exposure to aggression, the majority of the questionnaire data was positively skewed to some degree. This was concerning as significantly violating the assumption of normality (as the GHQ-28 and EAVS data did), increases the chance of committing a Type I or Type II error (Osborne, 2002).

Explanations for the non-normal distribution were explored and the possibilities of error in data entry or non-declared missing values were excluded with confidence for both the GHQ-28 and the EAVS. The possibility of outliers being responsible for the skew was

explored. There was one outlier with a score of 22 on the measure of general health but this was not an adequate explanation because the skew was positive (i.e. towards the higher end of the scale) rather than negative (i.e. towards the lower end of the scale). Although this case was not considered to be responsible for the skew, the option of excluding it from the analysis was considered. Osborne (2002) notes that there is debate in the literature as to whether or not outliers should be removed from the data set. Judd and McClelland (1989) consider the removal of outliers to be "honest, reliable and important". However this option was rejected on the basis of there being such a small cohort of participants meeting the cut-off for the presence of a minor mental health problem that retaining the case was considered to be important.

A more plausible explanation for the skew in the general health data was the 32 participants who did not report any symptomatology at all. The measure of general health used in this study is used globally and has considerable data supporting its reliability and validity as a measure of general health (Goldberg *et al.*, 1997). Hence the most plausible explanation for the skew appears to be that the sample that chose to participate was a generally healthy sample. A point worthy of reiteration is that nursing staff who were off-sick at the time of the study were not able to participate. Had they had the opportunity to take part, the data may have been less skewed overall and would possibly have produced a bimodal (non-normal) distribution (Dancey & Reidy, 2004).

4.3.2.1 Non-Validated Questionnaire

With regard to the non-normally distributed data obtained from the Exposure to Aggression and Violence Scale (EAVS: Petrie, 2000), similar consideration was given to understanding the reasons for the distribution in order to decide how to analyse the data. The finding that in-patient psychiatric nurses reported significantly higher exposure to aggression than community nurses was unsurprising (Poster, 1996). The EAVS is a non-validated questionnaire that was designed for use in a similar doctoral study (Petrie, 2000) with a comparable population of psychiatric nurses. The phrasing of the items of the EAVS poses one potential explanation for the skewed data for this measure. The items made use of the wording: *"in the last few months"* and required an approximation of the number of incidents in which the participant had been exposed to aggression. This is somewhat arbitrary and open to interpretation. The emphasis on recent experiences of aggression by nature limits the data available from community, or out-patient based psychiatric nurses. Higher rates of aggression are associated with acute phases of psychiatric illness (Fottrell, 1980; Katz & Kirkland, 1990; Nijman *et al.*, 1997; Owen *et al.*, 1998; Delaney *et al.*, 2001; Bowers *et al.*, 2007). If a patient is living in the community, they are more likely to be stable with less severe symptomatology and therefore may represent a lower risk of aggression. Thus it is entirely feasible that community or out-patient based psychiatric nurses had experienced no, or infrequent aggression in the preceding *"few months"*. Had the item asked about experiences of aggression throughout the "work lifespan" (Erickson & Williams-Evans, 2000), this discrepancy may not have been detected and the data may not have been so skewed. This possibility was initially raised in feedback from a participant but it has also been noted in the literature. Maguire and Ryan (2007) comment on how the variance in the

time-span of measures of exposure to aggression hinders attempts to gain accurate estimations of the prevalence of patient aggression.

The requirement for an approximation of the number of aggressive interactions may also be responsible for some anomalies in the data. The requirement to recall incidents that are likely to have been distressing to some degree may well have introduced a form of bias. Self-report is associated with bias through processes of exaggeration or minimisation. Thus, this aspect of the measure represents a weakness that it is difficult to control for and is common in studies that make use of self-report measures. Although it is unlikely that this would account for a significant proportion of the skew, it remains a factor nonetheless.

In summary, the wording of the items and hence the nature of the variable that was measured was considered to be the most plausible explanation for the skewed data from the EAVS.

4.3.3 Data Analysis

Where assumptions of normality were not violated significantly, parametric analyses were conducted because it was most appropriate given the power of the sample, the distribution of the data, homogeneity of variance, and the lack of extreme scores (Dancey & Reidy, 2004). Where analysis of the data required the use of the skewed data described above, alternative methods of analysis were chosen. Hypotheses 3, 4, and 5 were affected by this data. For hypothesis 3, the data on exposure to aggression

was dichotomised into two independent groups. This was considered to be a legitimate and meaningful method of analysis for this hypothesis, but it is not universally accepted and Dancey and Reidy (2004) for example, caution against the use of this strategy where feasible. Dichotomising data in this way has been associated with a loss of sensitivity of the data (Streiner, 2002; Maxwell & Delaney, 1993) because there may be large differences between the cases within a group (for example, cases with minimal scores being considered the same as cases falling just short of the median) and only small differences between cases in the other group (for example, cases falling just below the median in one group and cases falling just above the median in the other group). Streiner (2002) reported that this method of analysis is approximately two-thirds less efficient in detecting true relationships between continuous variables. In the light of these concerns, the use of this method was limited to hypothesis 3. Subsequent correlations conducted for hypothesis 5 also failed to find significant relationships between exposure to aggression and attributions, thus although the concerns of Dancey and Reidy (2004), Streiner (2002) and Maxwell and Delaney (1993) are of course relevant, it appears that this was not the reason for the failure to detect significant relationships.

For hypothesis 5, non-parametric analysis was chosen. Although non-parametric analyses are generally considered to be less powerful and therefore less desirable than parametric equivalents (Dancey & Reidy, 2004), it was considered to be an appropriate solution to the analysis of a mixture of normally and non-normally distributed data. Hypothesis 5 employed a correlational design. As correlations examine the degree of co-variance between two variables, it is not possible to state causal relationships with

this design (Dancey & Reidy, 2004). Hypothesis 5 was intended to be exploratory so the use of non-parametric methods was not felt to pose a major threat to the conclusions of the study.

4.3.4 Effect Size

Effect sizes were calculated for all significant or nearly significant effects using formula to calculate Cohen's *d* provided by Dunst *et al.*, (2004). Although Cohen (1977, 1988) determined descriptive adjectives for various effects sizes (d = .20 is small; d = .50 is medium; and d = .80 is large) and these have largely been adopted as convention, not all researchers agree with this concept (Glass *et al.*, 1981). Lipsey (1998) suggested that an effect size of .20 was a reasonable level to expect research to detect. Calculating effect sizes found in this study allows the results to be compared meaningfully with other attribution based studies, even if there are differences in methodology (Dunst *et al.*, 2004).

The magnitude of the effects found in this study all meet and indeed exceed Lipsey's (1998) expectation of a minimum of .20. The effect of information about history of aggression and diagnosis of schizophrenia upon attributions for control would be considered as small and medium under Cohen's convention (d = 0.26 and 0.46 respectively) and therefore should not be considered trivial in any way. The magnitude of the effect indicates that learning that an individual has schizophrenia produces moderately large changes in attributions for control over aggression insofar as the individual is perceived to have less control over their actions. This unique finding should be considered a precedent for future research to match.

Similarly, the effect of incident setting upon attributions has not been tested in this way before. This study has shown clearly that where the psychiatric status of an individual is clear from the setting of an incident, nurses perceive the cause of aggression from that individual to be determined by situational and environmental influences. Where psychiatric status is unclear as determined by the witnessing of aggression in a public place, nurses perceive the cause of the aggression to be the individual, rather than the situation. Thus, nurses are less tolerant of aggression where it is not an expected occurrence as it is in their workplace in that they do not consider the situational or environmental influences to be an adequate justification for such behaviour. They place the blame firmly with the individual. The magnitude of this difference is large (d = -0.69). A moderately large effect was found for attributions for stability when the setting of the incident is taken into account (d = 0.54). Psychiatric nurses believe that the likelihood of aggression occurring again in the future will fluctuate as a result of other things that are happening in a ward environment. While situational determinants of aggression are also considered when aggression is witnessed in a public forum, the influence is not as strong.

These findings are reminiscent of the findings of Jansen *et al.* (2006) who reported that psychiatric nurses differentiate the way in which they evaluate aggression from psychiatric patients. However Jansen and his colleagues measure attitudes rather than attributions as this study does. Although effect size can cope with the comparison of different methodologies, attitudes and attributions are different (but related) concepts.

Comparing the magnitude of the effects between this and Jensen *et al.*'s study would not be meaningful.

The correlations obtained for the testing of hypothesis 5 used Spearman's Rho, a non-parametric analysis that relies on ranked data, rather than the mean. As effect size is a parametric measure (Dunst *et al.*, 2004) it would not be appropriate to calculate effect sizes on non-parametric data. However the correlation co-efficient in itself serves as a measure of the strength of the relationship between two variables, so comparison may still be made with existing studies.

The majority of the correlations found in this study can be considered weak correlations according to guidelines provided by Dancey and Reidy (2004), which state that correlations of ±0.1 to ±0.3 are weak, and correlations of ±0.4 to ±0.6 are moderate. Although they would be labelled weak, this does not detract from the importance of the results. After all, the statistical probability of these correlations occurring by chance is less than 5%. Moderate correlations were detected between control and stability attributions; emotional expression and social dysfunction, negative impact of patient aggression, and experiential avoidance; and depersonalisation and negative impact of patient aggression, and experiential avoidance. These are comparable with other research findings in this area (Dagnan & Weston, 2006).

4.4 Methodological Issues

In considering the notion of statistical and clinical significance further, there were several aspects of the methodology of this study that ought to be borne in mind.

4.4.1 Experimental stimulus

When designing the present study, a number of factors had to be taken into consideration. These mainly concerned how the information would be presented to participants. Attribution studies have traditionally employed a vignette design, with the vignette depicting an incident of challenging behaviour, and have required staff to report their attributions about the challenging behaviour on a seven-point bipolar scale (Hastings, 1997; Dagnan *et al.*, 1998; Tynan & Allen, 2002). Vignette designs have attracted criticism due to questionable ecological validity (Leggett & Silvester, 2003; Kelley & Michela, 1980) and these concerns arise from a few studies that compare the use of a vignette with a "real" incident. Wanless and Jahoda (2002) conducted such a study by comparing staff responses to a vignette depicting challenging behaviour to a real incident of challenging behaviour. Emotional responses to the real incident were stronger and more negative evaluations about the aggressor were made compared to when a vignette was used. However, Lanza *et al.* (1997) reported that vignettes depicting patient aggression can produce causal attributions that are comparable in magnitude with attributions produced during real incidents. Given that this study detected moderately large effect sizes with a stimulus that could be construed as lacking in ecological validity, it is reasonable to think that if a more naturalistic stimulus was used, the effects that were detected would have been larger.

Bailey *et al.* (2006) suggested that if a real incident were used, in order for the ecological validity to be improved, all participants in the study should be familiar with the incident, or the individual involved. Employing this strategy in this study would have required several target patients to be identified (one per workplace setting: 4 in-patient wards, 6 community-based mental health teams). This would have introduced confounding and uncontrollable variables that would have created even more variance in the data, which may have compromised the conclusions of the study. Vignette designs continue to be frequently used and have been supported by Lanza *et al.* (1997). The ecological validity of vignettes can be increased by basing them on documented accounts of real incidents. This was considered for this study but it was not possible to access formal documentation at the time of writing the vignette. Another avenue for future investigation would be video-taping role-plays of incidents and deceiving participants into thinking they were recordings of real incidents. Whilst deception is generally not advocated in scientific research, if deception is justified as an integral part of the purpose of the study and it is declared on the application for ethical approval, it can be permissible (World Medical Association, 2000). It remains reasonable to think that presenting accounts of real incidents could yield stronger effects than those detected by this study.

A final aspect of the vignette itself was that the participant was depicted as a witness to the aggression rather than the victim. Thus the incident happened to someone else. The actor-observer bias (Jones & Nisbett, 1971) describes differences in attributions according to the viewpoint of the incident. If something happens to someone else, attributions tend to be dispositional. If something happens to us, attributions tend to be

more situational. Although the scenario depicted in this study does not directly map onto the actor-observer bias in that a third party (i.e. the aggressor, Mike) is involved, knowledge of this bias is enough to expect that if the participant had been the victim rather than an observer, a different pattern of attributions may have been evident.

Writing the vignette as if the participant was the victim (and thereby eliminating the third party) was considered in the planning phase of the study but was rejected on the grounds of ethical concerns about the potential to evoke greater levels of distress if the participant was depicted as the victim. It is an ethical duty of scientific researchers to minimise the degree of distress or discomfort to which participants are exposed, unless it forms an integral and justifiable component of the study, and appropriate strategies for managing such discomfort are put into place (World Medical Association, 2000). It would be important to examine the role of such a bias further but it would be exceedingly difficult to control for nurses own experiences of aggression. It is therefore probable that any ecologically valid scenario would evoke reminiscence upon personal experiences and a degree of distress amongst nurse participants.

4.4.2 Design of the study

The next methodological conundrum concerned the design for the testing of the main hypothesis (the impact of new information upon attributions). A between subjects design would have entailed presenting each participant with a control vignette and with one further piece of information. Given that the literature on risk factors for patient aggression is so immense, it was felt that presenting only one extra piece of information

would not make the best use of the opportunity to test the impact of presenting information about risk factors. An independent samples design (using information as the independent variable) would have required a larger sample size in order to have sufficient power to detect a medium effect size (n = 35 in each group; Bissonnette, 2003) and testing the impact of more than one piece of information would have entailed a much larger sample size. Having a larger sample size, if indeed it had been achieved, would have introduced more uncontrollable variance in the data. Such a design would however have helped to prevent participants from guessing the purpose of the study and would have eliminated potential practice effects (Dancey & Reidy, 2004).

In order to keep the required sample size to an achievable level, a repeated measures design was employed instead, thereby making the hypothesis more obvious to participants. It was not felt that making the hypothesis more explicit would compromise the study greatly. Keeping the sample size to an achievable level was of high importance given observed response rates of less than 50% in some questionnaire based studies (Nolan *et al.*, 1999; Kilfedder *et al.*, 2001; Jenkins & Elliot, 2004). This design allowed for greater control of potentially confounding variables and variance that are introduced by having greater numbers of participants (Dancey & Reidy, 2004) because each participant acts as their own control.

4.4.3 Control group

As stated above, a repeated measures design largely negates the need for a separate control group. Other research in this area, even those using an independent samples design, has generally not included such a control group (Tynan & Allen, 2002; Wanless

& Jahoda, 2002). The population of interest in the present study was solely psychiatric nurses currently working with adults. Dealing with aggression from patients is considered to be an integral part of the job of psychiatric nurses (Poster, 1996; Laza *et al.*, 1997) and is included in nurse's professional training – de-escalation and control and restraint courses are mandatory. The depiction of aggression in the control vignette may have activated pre-existing schema about aggression (that will have developed as a result of previous exposure to aggression and professional training) that overshadowed the effect of the new information.

With these possibilities in mind, it may have been worthwhile making use of a separate control group who either were not nurses at all, or who were nurses working in a specialty where the frequency of patient aggression was not as high as it is in psychiatric services. It is recognised that schema and beliefs about aggression would be present for any sample used, the point however is that for psychiatric nurses, the risk of being exposed to aggression is higher than it would be for other sample groups. Making use of a separate comparison or control group, or using a longitudinal design would be a useful and important means of investigating the impact of psychiatric nurses professional training upon beliefs about patient aggression.

4.5 Ethical Considerations

Approval for this study was granted by the local area Research Ethics Committee. Whilst there were no notable difficulties with the process of obtaining ethical approval, advice given *by* the ethics committee did raise some concern. The committee advised

that there was no need for a consent form *"since this is returned fully anonymous"*. This advice was rejected and the consent form was retained within the pack given to potential participants. Informed consent is considered to be at the centre of ethical conduct when conducting scientific research (Faden & Beauchamp, 1986; Marshall, 2006). Murff *et al.* (2006) reported that almost 40% of research participants did not fully understand the details of the study but still gave consent. Murff *et al.* also reported that this finding is consistent with other studies (Wendler, 2004). It was considered to be of paramount importance to ensure, as far as was possible, that participants understood the risk of harm (albeit a small risk) and their rights to withdraw from participation at any point. Retaining the consent form was considered to be the most practical way of ensuring these important points were understood, although it is recognised that even with the best efforts, the risk of misunderstanding or not fully understanding these points will remain (Murff *et al.*, 2006). The Declaration of Helsinki (World Medical Association, 2000), which details standards expected when conducting research involving human participants, clearly states that some form of documented consent must be obtained, either in written form from the participant, or formally documented that non-written consent was obtained.

4.6 General Discussion

This study has shown that the learning of new information about an aggressive psychiatric patient can cause a change in attributions made when attempting to explain or understand why an event occurred. It seems that attributions for control are affected by new information to a greater degree than attributions for locus and stability. A lower

degree of control over aggression is perceived after it has become known that the aggressive individual has a prior history of aggression and a diagnosis of schizophrenia. Attributions are related to the emotional experiences of an individual. Specifically, negative emotional experiences are associated with a perception of aggression being uncontrollable by the aggressor and stable, or likely to occur again. Negative emotional experiences include negative feelings towards aggressive patients, such as anger, negative and cynical attitudes (depersonalisation), and experiences of aggression having a greater detrimental impact. Stable attributions for aggression were associated with the syndrome of burnout.

In practical terms, a scenario occurring whereby a patient is encountered, for whom there is no or very little prior knowledge, can happen on a regular basis. For example, new referrals into community mental health teams, police referrals to assessment wards, or referrals to liaison psychiatry via accident and emergency departments. The risk of aggression from new patients can be largely unknown until assessment has taken place. Thus, in the event that an unknown patient should become aggressive, the way in which psychiatric nurses explain or understand the aggression can mediate their emotional reaction to that event.

It is evident that training courses can impact upon attributions and reduce emotional reactions to challenging behaviour (McGill *et al.*, 2007). If training can reduce a negative emotional impact, this would contribute to maintaining a healthy staff group and reduce the likelihood of the development of the syndrome of burnout. Preventing or reducing levels of stress and burnout in psychiatric nurses could contribute to

reduced levels of friction between nurse's and their colleagues and patients, and staff absence through sick leave, which may in turn help to reduce the frequency of patient aggression (Finnema *et al.*, 1994). This warrants further investigation.

The evidence on the effectiveness of training programmes in reducing patient aggression is inconsistent. Jansen *et al.* (2006) reported that the majority of training received by psychiatric nurses in the UK focuses on practical reactions to aggression, including control and restraint, and de-escalation techniques. te Wildt *et al.* (2006) highlight that although increases in knowledge and confidence are evident after most nurse training courses, the extent to which acquired knowledge and confidence is applied practically and impacts on reducing rates of patient aggression is unclear. Bowers *et al.* (2006) reported that training courses do not help to reduce patient aggression but in fact increase it during the period in which nurses are absent from wards whilst receiving training. Nachreiner *et al.* (2005) also reported an increased risk of aggression towards nurses who had received training in managing aggressive patients. Although Jansen *et al.* (2006) reported that UK nurse training focuses mainly upon practical reactions to patient aggression, the precise content of nurse training programmes remains unclear.

Care staff who work with people with intellectual disabilities often receive training in coping with challenging behaviour which includes aspects of functional analysis (O'Neill *et al.*, 1990). Functional analysis can provide a useful insight into the reasons why challenging behaviour occurs by taking an explicit focus upon environmental and

situational antecedents. Possible outcomes include seeing challenging behaviour as a means of gaining attention, or avoiding something that the service user does not like.

The extent to which staff who work in general adult psychiatry receive such training is unclear. Jansen *et al.* (2006) reported that psychiatric nurses in different countries held different attitudes towards patient aggression. In the UK, dominant attitudes to patient aggression are that aggression is offensive (insulting, hurtful and unacceptable), destructive (aggression is a threat of or actual physical assault), and intrusive (intention is to damage or injure). Attitudes that see aggression as communicative (a signal of the patient's lack of power with the aim of enhancing the therapeutic relationship), or protective (as a defence against threats to physical or emotional space) are less apparent in the UK than they are in other European countries. Unfortunately, these authors do not relate differences in attitudes to differences in rates of patient aggression. However they do recommend that training for psychiatric nurses should include attitudinal perspectives that see patient aggression as an attempt to communicate or protect themselves from intrusions or threats to physical and emotional space (also Harris & Morrison, 1995; Johnson *et al.*, 1997; Whittington & Wykes, 1996; Spokes *et al.*, 2002; Winstanley & Whittington, 2004). Hence the technique of functional analysis seems to fit very well with the recommendations of Jansen *et al.* (2006), even though their recommendations lack the backing of data on rates of patient aggression.

It therefore seems that it would be worth investigating whether or not training psychiatric nurses specifically in functional analysis techniques may help to either reduce the occurrence of patient aggression, or at least mediate the emotional impact of

it. There is evidence suggesting that training aiming to modify nurses beliefs and attitudes about patient aggression has not been successful (Needham *et al.*, 2005b; Hahn *et al.*, 2006) but functional analysis training would teach nurses to better identify environmental influences on patient aggression, as recommended by Irwin (2006). The technique has so far proved useful in reducing challenging behaviours in a variety of populations (elderly people with dementia: Baker *et al.*, 2006: children with emotional/behavioural disorders: Wright-Gallo *et al.*, 2006; people with intellectual disabilities: Carter & Wheeler, 2007).

Research on the effectiveness of training in functional analysis has largely focussed upon people with significant degrees of cognitive impairment and it may be that the technique is not as effective for adults without such a degree of cognitive impairment. The emphasis on understanding environmental or situational influences on behaviour would make it reasonable to hypothesise that such training could yield more external, uncontrollable, and unstable attributions. This study has reported that external attributions are associated with lower levels of anxiety and anger towards an aggressive patient. Stable attributions are associated with burnout; unstable attributions are associated with lower levels of burnout. Such training could contribute to healthier nursing staff. However there is a thorn in the hypothesis in that this study showed that uncontrollable attributions were associated with negative emotions. Only formal testing of this hypothesis could lead to an answer on the impact of training psychiatric nurses in functional analysis upon incidents of patient aggression and staff well-being.

4.7 Directions for future research

This study has investigated a novel aspect of the process of making causal attributions about aggression from psychiatric patients. Given that this is the first study to investigate the impact of new information upon attributions, it would be sensible for future research to attempt to support, or otherwise, the results of this study. The findings from this study have lead to the opening of many other avenues of further investigation. The key recommendations for future research are now presented.

The choice of experimental stimulus should be investigated further with the hypothesis that increasing the ecological validity of the stimulus would yield stronger and more consistent effects of new information than this study reported. Whatever the nature of the stimuli used, there remains a difference between inferred responses and actual responses (Leggett & Silvester, 2003). Addressing this important discrepancy by comparing inferred and actual responses should also be considered. Additionally, manipulating the choice of information that is presented to participants would be important as it may have an influence on attributions for control. Pre-existing beliefs about factors known to contribute to the onset of various mental health problems may lead to a different profile of attributions than that detected here. Nurse's perceptions of patients coping skills and nurse's own coping skills are another area identified as potentially influencing attributions about patient aggression.

It has been noted that the measurement of attributions taps into the end product of what can be a complex cognitive process. Investigating the impact of new information upon

attributions represents a first step in gaining some insight into the way in which the process of making attributions works. Employing a longitudinal design to investigate psychiatric nurses beliefs about patient aggression at various points throughout their pre-registration training and professional careers would yield important information about how beliefs change in response to training and experience. Following on from this it has also been identified that training or educating nurses in the principles of functional analysis may also help to modify attributions in the direction of having a greater appreciation of environmental influences, which may then contribute to a more healthy staff group, which may then in turn contribute to the reduction of patient aggression.

Finally, Leggett and Silvester (2003) report eloquently on the limitations of existing research on attributions for violence. They highlight that such research has thus far neglected the examination of patient gender. The majority of research, including this study have used male stimuli despite findings that the discrepancy in prevalence of aggression between male and female aggressors diminishes when aggressors are psychiatric patients (Scott & Resnick, 2006). Such findings may not be widely known and the stereotype of a male aggressor may well persist. Attribution research using vignettes has depicted female stimuli (Tynan & Allen, 2002) but the gender of the stimuli has not been explicitly tested to date.

In conclusion, this study has taken an important first step into investigating a dynamic aspect of the attribution process. Future research, as outlined above, should seek to build upon this study.

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LISTS OF TABLES AND FIGURES

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APPENDICES

APPENDIX A

CORRESPONDENCE FROM TAYSIDE COMMITTEE ON MEDICAL RESEARCH ETHICS AND TAYSIDE RESEARCH AND DEVELOPMENT

Tayside Committee on Medical Research Ethics A

NHS Tayside

Telephone Number:
Fax Number:

Miss Catherine J Parry
Trainee Clinical Psychologist
NHS Tayside / University of Edinburgh

Date 28 November 2006
Your Ref
Our Ref
Enquiries to
Extension
Direct Line
Email

Dear Miss Parry

Full title of study: **The impact of new character information upon attributions made by psychiatric nurses about patient aggression.**

REC reference number: **06/S1401/142**

The Research Ethics Committee reviewed the above application at the meeting held on 24 November 2006.

Ethical opinion

1. There is no requirement for a consent form since this is returned fully anonymous.

2. Please remove the comment in The Participant Information Sheet that states that the questionnaire should take no longer than 30 minutes to complete. This only serves to make people feel uncomfortable, even inadequate, if they then take longer. Please submit a revised version for our records. It should be identified as Version 2 with a new full date.

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation.

Ethical review of research sites

The favourable opinion applies to the research sites listed on the attached form.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The documents reviewed and approved at the meeting were:

Document	Version	Date
Application		03 November 2006
Investigator CV	1	23 October 2006
Protocol	2	23 October 2006
Covering Letter		03 November 2006

Headquarters

Chairperson,
Chief Executive,

Document	Version	Date
Summary/Synopsis	1	23 October 2006
Interview Schedules/Topic Guides	1	03 November 2006
Questionnaire: Witnessing Incidents	1	23 October 2006
Questionnaire: Exposure to Aggression & Violence Scale	1	23 October 2006
Questionnaire: Human Services Survey		
Questionnaire: General Health Questionnaire (GHQ-28)		
Questionnaire: AAQ-2		
Letter of invitation to participant	2	23 October 2006
Participant Information Sheet: Instructions for Participants	1	03 November 2006
Participant Information Sheet	1	23 October 2006
Participant Consent Form	1	23 October 2006
Schedule for Participants	1	03 November 2006
Clinical Trial Liability Insurance		28 July 2006
Letter from Clinical Supervisor	2	23 October 2006
CV for		03 November 2006
Letter from The University of Edinburgh		01 November 2006
Letter to Nurse Manager to send Protocol	1	03 November 2006
IMPACS		23 October 2006

Research governance approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final research governance approval from the R&D Department for the relevant NHS care organisation.

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/S1401/142	**Please quote this number on all correspondence**

Yours sincerely

for **Chair**

Enclosures: List of names and professions of members who were present
Standard approval conditions
Site approval form (SF1)

Copy to: , University of Edinburgh
NHS Tayside R&D Department

Continued

Tayside Committee on Medical Research Ethics A

LIST OF SITES WITH A FAVOURABLE ETHICAL OPINION

For all studies requiring site-specific assessment, this form is issued by the main REC to the Chief Investigator and sponsor with the favourable opinion letter and following subsequent notifications from site assessors. For issue 2 onwards, all sites with a favourable opinion are listed, adding the new sites approved.

REC reference number:	06/S1401/142	**Issue number:**	1	**Date of issue:**	28 November 2006
Chief Investigator:	Miss Catherine J Parry				
Full title of study:	The impact of new character information upon attributions made by psychiatric nurses about patient aggression.				

This study was given a favourable ethical opinion by Tayside Committee on Medical Research Ethics A on 24 November 2006. The favourable opinion is extended to each of the sites listed below. The research may commence at each NHS site when management approval from the relevant NHS care organisation has been confirmed.

Principal Investigator	*Post*	*Research site*	*Site assessor*	*Date of favourable opinion for this site*	*Notes* (1)
Miss Catherine Parry		NHS Tayside	Tayside Committee on Medical Research Ethics A	28/11/2006	

Approved by the Chair on behalf of the REC:

.... (Signature of ~~Chair~~/Co-ordinator)
(delete as applicable)

.... (Name)

(1) *The notes column may be used by the main REC to record the early closure or withdrawal of a site (where notified by the Chief Investigator or sponsor), the suspension of termination of the favourable opinion for an individual site, or any other relevant development. The date should be recorded.*

Tayside Committee on Medical Research Ethics A

NHS
Tayside

Miss Catherine J Parry
Trainee Clinical Psychologist
NHS Tayside / University of Edinburgh

Date 5 February 2007
Your Ref
Our Ref
Enquiries to
Extension
Direct Line
Email

Dear Miss Parry

Full title of study: **The impact of new character information upon attributions made by psychiatric nurses about patient aggression.**

REC reference number: **06/S1401/142**

I acknowledge receipt of your letter of 8 December 2006 with which you enclosed Participant Information Sheet version 2 dated 8 December 2006 and would apologise for the inordinate length of time it has taken to respond. I am pleased to re-affirm the favourable opinion already given.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/S1401/142	**Please quote this number on all correspondence**

Yours sincerely

Miss

Copy to: NHS Tayside R&D Department

LC/LH

11 December 2006

Miss Catherine Parry
Trainee Clinical Psychologist

Dear Miss Parry,

NHS TAYSIDE MANAGEMENT/GOVERNANCE APPROVAL

R&D Project ID: 2006MH11

Title: The impact of new character information upon attributions made by psychiatric nurses about patient aggression.

LREC Ref: 06/S1401/142 LREC Approval Date: 28/11/06

Funding: Departmental

Sponsor: University of Edinburgh (Still to be confirmed in writing)

NHS Support Costs: £713

The above project has been registered on the NHS Tayside R&D database, as required by the Research Governance Framework. Full LREC approval has been obtained and there are £713 of NHS Support costs associated with this research project.

NHS Tayside has no objection to the project proceeding, provided all necessary approvals are in place and all amendments to the protocol, personnel involved and funding be notified to the R&D Office and all appropriate personnel.

It is important to note that all research must be carried out in compliance with the Research Governance Framework for Health & Community Care, GCP and the new EU Clinical Trials Directive (for clinical trials involving investigational medicinal products).

Kind Regards

Non-Commercial
Research & Development Manager

P.S. The University of Edinburgh has been identified as the research sponsor for this study. A letter from an authorised signatory at the University should be obtained confirming the institution are aware of this project and willing and able to accept the role of sponsor. As soon as it becomes available a copy of the letter should be forwarded to the R&D Office for audit purposes.

c.c. Ms (REC Administrator, NHS Tayside)

APPENDIX B

LETTERS OF INVITATION TO PARTICIPANTS
PARTICIPANT INFORMATION SHEET
CONSENT FORM

NHS
Tayside

Clinical Psychology to General Adult Psychiatry

Tel:
Fax:

Date 12th January 2007
Your Ref:
Our Ref:
Date Typed:
Date Dictated:

Enquires to: Ms Kate Parry
Direct Line:
Email:

Dear Sir or Madam,

Nurses Experiences of and Beliefs about Patient Aggression

I am a Trainee Clinical Psychologist studying at the University of Edinburgh and working in Tayside Psychological Therapies Service (Clinical Psychology to General Adult Psychiatry). I am conducting a research study as part of my training in Tayside and I am looking for participants to take part in the study. My area of interest is concerned with nurses experiences of and beliefs about patient aggression. I am recruiting **participants who are registered mental health nurses or nursing assistants currently working within psychiatric services for adults.**

I would be grateful if you would take the time to read the enclosed information pack and think about whether or not you would be willing to participate in the study. If you agree to participate please return your completed consent form and completed research pack in the separate envelopes provided. Please return this as soon as possible but no later than **two weeks.** If you are not interested in participating, please discard this information pack or return it blank.

If you have any further enquiries please do not hesitate to contact me using the details provided on the enclosed information sheet.

Many thanks for your time.

Yours sincerely

Catherine (Kate) Parry
Trainee Clinical Psychologist

NHS
Tayside

Clinical Psychology to General Adult Psychiatry

Tel:
Fax:

Date 12th January 2007
Your Ref:
Our Ref:
Date Typed:
Date Dictated:

Enquires to: Ms
Direct Line:
Email:

Dear Participant,

Nurses Experiences of and Beliefs about Patient Aggression

I write to confirm that Catherine (Kate) Parry is carrying out a research project as part of her training in Clinical Psychology. I am acting as her Clinical Supervisor and have agreed that she may contact you with an invitation to take part in the research project.

I would be grateful if you would take the time to read the attached information and consider taking part. I would be pleased to provide you with any further information or answer any questions you have regarding the project.

Yours sincerely

Chartered Clinical Psychologist

Clinical Psychology to General Adult Psychiatry

Tel:

Nurses Experiences of and Beliefs about Patient Aggression

Participant Information Sheet

We invite you to participate in a research project, which we believe to be of potential importance. However, before you decide whether or not you wish to take part, we need to be sure that you understand why we are doing this research and what you would be asked to do should you agree to participate. Therefore, we are providing you with the following information. Please read it carefully and be sure to ask any questions that you may have and, if you want, discuss it with others. We will do our best to explain and to provide any further information you may ask for, now or later. You do not have to make an immediate decision.

The Background to the Study

This study is being conducted through the Clinical Psychology Department in Tayside and the University of Edinburgh. It will form the thesis that will be submitted for the degree of Doctorate in Clinical Psychology for myself, Catherine (Kate) Parry. We are conducting research into how experience of aggression from patients influences nurses beliefs about aggression. Given that mental health nurses are at high risk for experiencing aggression from patients, we have decided to focus upon this group of nurses. We would also like to collect some information on your general well being and see if there is a connection between your beliefs about patient aggression and how you feel in yourself and about your work.

What does the study involve?

If you agree to participate in the study, we would like to give you two things, a consent form and a booklet. The consent form asks you to sign that you have read this information sheet and agree to participate in the study. The booklet contains three sections: a section collecting some personal information about you; a section containing a short story and some questions about the story, and a section containing some questionnaires. We would ask that you complete each section in turn without discussing your responses with anyone else. You will be asked to read a very short story about a

hypothetical patient, based upon documented accounts of aggression. You will then be asked to rate your responses as to what you think are the causes of the aggressive behaviours depicted in the story. There are five questionnaires in the final section. These ask about your experiences of aggression at work as well as your general well being.

Envelopes will be provided for you to return your completed consent form and response booklet separately. These should be either handed back to myself, or returned using the internal mail system.

Do I have to take part?

It is up to you whether or not you decide to take part in the study. If you do, you will be given this information sheet to keep and you will be asked to sign a consent form before completing the response booklet. You will be free to withdraw at any time without having to give a reason. A decision not to take part or to withdraw at a later stage will in no way affect your current or future employment.

What will happen to the information collected in the study?

If you agree to take part in the study, all of the information about you and the responses you give will be confidential. No names or personal information will be used in the write up of the study. The information you give will be collated with other responses to assess how experiences of aggression influence beliefs about patient aggression. This data will be correlated with the collated information on experiences of aggression at work, your general health and feelings about your work.

What are the possible discomforts or risks?

Some questions in the questionnaires may identify areas of difficulty that you had not fully considered before. If this does happen and you feel that you are having some difficulty coping with these feelings you can either speak to me directly, to one of my supervisors, to your own GP, or to the Occupational Health and Safety Advisory Services (OHSAS). The relevant details are given below.

What are your rights?

Participation in the study is entirely voluntary and you are free to refuse to take part or to withdraw from the study at any time without having to give a reason. Your decision to take part or not will have no effect on your present or future employment or your relationship with any of your managers. If you would like a copy of the overall results from the study you can obtain this on request from myself on the details below. The study will be completed by August 2007.

The Tayside Committee on Medical Research and Ethics, which has responsibility for scrutinising all proposals for medical research on humans in Tayside, has examined this proposal and has raised no objections from the point of view of medical ethics. The committee will also receive regular reports from NHS Tayside Monitors who will examine the records of the research while it is in progress.

Contact Details

If you have any difficulties or further questions please contact me on the number below, or leave a message for me to get back to you.

Ms Catherine (Kate) Parry (NHS Tayside)
Chief Investigator and Trainee Clinical Psychologist
Telephone:

Ms (NHS Tayside)
Clinical Research Supervisor and Clinical Psychologist
Telephone:

Dr (University of Edinburgh)
Academic Research Supervisor and Clinical Psychologist
Telephone:

Occupational Health and Safety Advisory Services (NHS Scotland)
Telephone: (freephone)
NB: Calls from mobile telephones are not free. There may be a wait for this service.

Thank you for taking the time to read this information sheet and considering taking part in the study. If you would like to participate, please read and complete the attached consent form carefully to indicate your consent to participate, then return it to me in the envelope provided.

Nurses Experiences of and Beliefs about Patient Aggression

CONSENT FORM

Please tick (✔) appropriate box

Have you read and understood the participant information sheet?	Yes ☐ No ☐
Have you been given an opportunity to ask questions and discuss this study further?	Yes ☐ No ☐
Do you understand that your participation is entirely voluntary?	Yes ☐ No ☐
Do you understand that you are free to withdraw from this study:	
• At any time?	Yes ☐ No ☐
• Without having to give a reason?	Yes ☐ No ☐
• Without this affecting your present or future employment?	Yes ☐ No ☐
Do you agree to any information used in this study being retained for use in future research?	Yes ☐ No ☐

Note: It is a statutory requirement that if you agree to take part in the study, your research records are available for scrutiny by monitors of the sponsor organisation (which may be the NHS, University or a commercial organisation funding the study) and, in the case of clinical trials of medicines, the UK Regulatory Authorities.

Do you agree to take part in this study?	Yes ☐ No ☐

PLEASE NOTE THAT THIS INFORMATION WILL BE STORED SEPARATELY FROM YOUR RESPONSES. IT WILL NOT BE POSSIBLE TO MATCH YOUR NAME TO YOUR RESPONSES

Participant's signature:..... Date:.....

Participant's name in block capitals:.....

Work Address:.....

.....

APPENDIX C

RESEARCH SCHEDULE

Instructions for participants.

Thank you for agreeing to take part in this study.

In section one I would be grateful if you would provide some personal information. The purpose of gathering this personal information is to be able to analyse the data effectively. Please be assured that this data will be confidential and will in no way be used to identify you personally or your responses. This data shall only be accessed by the researcher and will only be used for research purposes. It shall be stored in a secure location.

In section two you will find a short story and some questions. Please read the story then answer the questions. On the next three pages you will find some extra information. You will be asked to read this new information and answer the same questions as previously. It is very important that you read the information and complete the answers in the order in which they are presented. Please do not spend too long thinking about your responses, simply circle your immediate response and move on to the next page. **I would ask that you do not discuss your answers with any of your colleagues** in order to protect the validity of the data I collect. An example of how to complete this section is given below:

Example of item and how to respond:

Joe lives with a group of friends. One day he was standing at the top of the stairs talking to one of his housemates who was downstairs. Joe fell down the stairs. When he got up he hit the wall.

Please read the statement below and indicate your response by circling the appropriate number on the scale:

The aggression in this incident was caused by:

Joe						*The situation*
1	2	3	4	5	6	7

If you think that Joe caused the aggression, circle either 1, 2, or 3 depending on the strength of your view. If you think the situation of falling down the stairs caused the aggression, circle either 5, 6, or 7 depending on the strength of your view.

Finally, in section three there are five questionnaires for you to complete. Instructions are given separately on each questionnaire. Again, your responses will be treated confidentially and data will only be used for research purposes.Once you have completed all three sections, please place your response booklet in the envelope provided and either hand the envelope back to the researcher, or post it using the internal mail system to the address printed on the front.

SECTION ONE:

Demographic Information (* Please delete as appropriate)

1.	Are you:	Male*/Female*
2.	What is your age?	**Years Months**
3.	What is your professional grade?	a) Senior Charge Nurse* b) Charge Nurse* c) Senior Staff Nurse* d) Staff Nurse* e) Nurse Assistant* f) Other (please give title):
4.	How long have you worked in ADULT mental health services?	**Years Months**
5.	Where are you currently based?	a) Community* b) In-patient Ward*
6.	NB: This item is optional Please indicate which team you are currently based in:	a) CMHT 1 / 2 / 3 / 4* b) AORT / AMHRT* c) Day Services* d) Carseview Ward * e) RDLH Ward*

PLEASE TURN OVER TO SECTION TWO

You will be asked to read a short story which is based upon a documented description of workplace violence. Please consider how you would respond to such a situation by answering the questions that follow the story.

SECTION TWO:

Please read the following story and then answer the questions below:

You are entering the ward in which you work and see your colleague is busy with a patient you recognise as Mike, a 33 year old man. They seem to be arguing and you then see Mike pushing your colleague over and running off out of the ward.

You help your colleague up and he tells you that the argument had been about how much money Mike has left in his patient fund.

Please read the statement below and indicate your response by circling the appropriate number on the scale.

The aggression in this incident was caused by:

Mike *The situation*

1 2 3 4 5 6 7

The degree of control Mike had over his behaviour was:

Can definitely control *Can not control*

1 2 3 4 5 6 7

The likelihood of this occurring again is:

Changes from day to day *Stays the same*

1 2 3 4 5 6 7

You then learn that Mike has often behaved like this in the past and he can also be verbally abusive.

Please read the statement below and indicate your response by circling the appropriate number on the scale.

The aggression in this incident was caused by:

Mike *The situation*

1 2 3 4 5 6 7

The degree of control Mike had over his behaviour was:

Can definitely control *Can not control*

1 2 3 4 5 6 7

The likelihood of this occurring again is:

Changes from day to day *Stays the same*

1 2 3 4 5 6 7

You then learn that Mike has a diagnosis of Schizophrenia.

Please read the statement below and indicate your response by circling the appropriate number on the scale.

The aggression in this incident was caused by:

Mike *The situation*

1 2 3 4 5 6 7

The degree of control Mike had over his behaviour was:

Can definitely control *Can not control*

1 2 3 4 5 6 7

The likelihood of this occurring again is:

Changes from day to day *Stays the same*

1 2 3 4 5 6 7

You then learn that Mike was previously involved in local substance abuse services.

Please read the statement below and indicate your response by circling the appropriate number on the scale.

The aggression in this incident was caused by:

Mike *The situation*

1 2 3 4 5 6 7

The degree of control Mike had over his behaviour was:

Can definitely control *Can not control*

1 2 3 4 5 6 7

The likelihood of this behaviour occurring again is:

Changes from day to day *Stays the same*

1 2 3 4 5 6 7

SECTION THREE:

This section contains five questionnaires that ask about your experiences of aggression at work and your general well-being. Please read the instructions on each questionnaire carefully and complete them as fully as possible. Please note that there are no right or wrong answers, just answer as honestly as you can.

Although it is in no way our intention, it is possible that you may begin to feel distressed at some point during or after completion of these questionnaires. We consider the likelihood of such distress to be minimal however, if you do feel upset in any way you should contact either:

- myself, Kate Parry, the chief researcher and Trainee Clinical Psychologist, or
- my clinical research supervisor:
    - XXXXXXXXXXX, Clinical Psychologist, or
- my academic research supervisor:
    - XXXXXXXXXXX, Clinical Psychologist who is not affiliated with NHS Tayside, or
- your general practitioner, or
- Occupational Health and Safety Advisory Services

XXXX and I can be contacted at:

The XXXXX Centre

Tel:

XXXX can be contacted at:

University of Edinburgh

Tel:

Occupational Health and Safety Advisory Services:

Freephone:
NB: Calls from mobile telephones are <u>NOT</u> free. There may be a wait for this service.

General Health Questionnaire
(GHQ-28)

Name: _____ Date: _____

Please read this carefully. We should like to know if you have had any medical complaints and how your health has been in general, **over the past few weeks.** Please answer **ALL** the questions on the following pages simply by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer **ALL** the questions.

Thank you very much for your co-operation.

Have you recently:

A1	Been feeling perfectly well and in good health?	Better than usual	Same as usual	Worse than usual	Much worse than usual
A2	Been feeling in need of a good tonic?	Not at all	No more than usual	Rather more than usual	Much more than usual
A3	Been feeling run down and out of sorts?	Not at all	No more than usual	Rather more than usual	Much more than usual
A4	Felt that you are ill?	Not at all	No more than usual	Rather more than usual	Much more than usual
A5	Been getting any pains in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A6	Been getting a feeling of tightness or pressure in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A7	Been having hot or cold spells?	Not at all	No more than usual	Rather more than usual	Much more than usual
B1	Lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
B2	Had difficulty in staying asleep once you are off?	Not at all	No more than usual	Rather more than usual	Much more than usual
B3	Felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
B4	Been getting edgy and bad-tempered?	Not at all	No more than usual	Rather more than usual	Much more than usual
B5	Been getting scared or panicky for no good reason?	Not at all	No more than usual	Rather more than usual	Much more than usual
B6	Found everything getting on top of you?	Not at all	No more than usual	Rather more than usual	Much more than usual
B7	Been feeling nervous and strung-up all the time?	Not at all	No more than usual	Rather more than usual	Much more than usual

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INFORMING YOUR DECISIONS

Have you recently:

C1	Been managing to keep yourself busy and occupied?	More so than usual	Same as usual	Rather less than usual	Much less than usual
C2	Been taking longer over the things you do?	Quicker than usual	Same as usual	Longer than usual	Much longer than usual
C3	Felt on the whole you were doing things well?	Better than usual	About the same	Less well than usual	Much less well
C4	Been satisfied with the way you've carried out your task?	More satisfied	About same as usual	Less satisfied than usual	Much less satisfied
C5	Felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
C6	Felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
C7	Been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
D1	Been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
D2	Felt that life is entirely hopeless?	Not at all	No more than usual	Rather more than usual	Much more than usual
D3	Felt that life isn't worth living?	Not at all	No more than usual	Rather more than usual	Much more than usual
D4	Thought of the possibility that you might make away with yourself?	Definitely not	I don't think so	Has crossed my mind	Definitely have
D5	Found at times you couldn't do anything because your nerves were too bad?	Not at all	No more than usual	Rather more than usual	Much more than usual
D6	Found yourself wishing you were dead and away from it all?	Not at all	No more than usual	Rather more than usual	Much more than usual
D7	Found that the idea of taking your own life kept coming into your mind?	Definitely not	I don't think so	Has crossed my mind	Definitely has

A ☐ B ☐ C ☐ D ☐ **TOTAL** ☐

AAQ-2

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1.	Its OK if I remember something unpleasant.	1	2	3	4	5	6	7
2.	My painful experiences and memories make it difficult for me to live a life that I would value.	1	2	3	4	5	6	7
3.	I'm afraid of my feelings.	1	2	3	4	5	6	7
4.	I worry about not being able to control my worries and feelings.	1	2	3	4	5	6	7
5.	My painful memories prevent me from having a fulfilling life.	1	2	3	4	5	6	7
6.	I am in control of my life.	1	2	3	4	5	6	7
7.	Emotions cause problems in my life.	1	2	3	4	5	6	7
8.	It seems like most people are handling their lives better than I am.	1	2	3	4	5	6	7
9.	Worries get in the way of my success.	1	2	3	4	5	6	7
10.	My thoughts and feelings do not get in the way of how I want to live my life.	1	2	3	4	5	6	7

Christina Maslach • Susan E. Jackson

Human Services Survey

The purpose of this survey is to discover how various persons in the human services or helping professions view their jobs and the people with whom they work closely. Because persons in a wide variety of occupations will answer this survey, it uses the term *recipients* to refer to the people for whom you provide your service, care, treatment, or instruction. When answering this survey please think of these people as recipients of the service you provide, even though you may use another term in your work.

On the following page there are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way *about your job.* If you have *never* had this feeling, write a "0" (zero) before the statement. If you have had this feeling, indicate *how often* you feel it by writing the number (from 1 to 6) that best describes how frequently you feel that way. An example is shown below.

Example:

HOW OFTEN:	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW OFTEN 0 - 6	Statement:
_____	I feel depressed at work.

If you *never* feel depressed at work, you would write the number "0" (zero) under the heading "HOW OFTEN." If you *rarely* feel depressed at work (a few times a year or less), you would write the number "1." If your feelings of depression are fairly frequent (a few times a week, but not daily) you would write a "5."

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Human Services Survey

HOW OFTEN:	0	1	2	3	4	5	6
	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

HOW OFTEN 0 - 6	Statements:
1. _____	I feel emotionally drained from my work.
2. _____	I feel used up at the end of the workday.
3. _____	I feel fatigued when I get up in the morning and have to face another day on the job.
4. _____	I can easily understand how my recipients feel about things.
5. _____	I feel I treat some recipients as if they were impersonal objects.
6. _____	Working with people all day is really a strain for me.
7. _____	I deal very effectively with the problems of my recipients.
8. _____	I feel burned out from my work.
9. _____	I feel I'm positively influencing other people's lives through my work.
10. _____	I've become more callous toward people since I took this job.
11. _____	I worry that this job is hardening me emotionally.
12. _____	I feel very energetic.
13. _____	I feel frustrated by my job.
14. _____	I feel I'm working too hard on my job.
15. _____	I don't really care what happens to some recipients.
16. _____	Working with people directly puts too much stress on me.
17. _____	I can easily create a relaxed atmosphere with my recipients.
18. _____	I feel exhilarated after working closely with my recipients.
19. _____	I have accomplished many worthwhile things in this job.
20. _____	I feel like I'm at the end of my rope.
21. _____	In my work, I deal with emotional problems very calmly.
22. _____	I feel recipients blame me for some of their problems.

(Administrative use only) cat. cat. cat.

EE: _____ _____ DP: _____ _____ PA: ___ ___ _____

EXPOSURE TO AGGRESSION AND VIOLENCE SCALE

The following questionnaire asks about the types of incidents that you may have experienced whilst at work. Please answer each individual item, by placing a tick ✔in the appropriate space, or circling the appropriate number.

INCIDENTS

Please consider the following incidents.
In your period of employment as a nurse working in psychiatric services for adults, within the past few months have you been: -

(*Other being partner, friend or relative of a patient)

	YES	*NO*	**On approximately how many occasions in the past few months? Please circle**				
1. Shouted at by a patient/other*			**<5**	**5-10**	**10-15**	**15-20**	**>20**
2. Sworn at by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
3. Verbally threatened by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
4. Physically threatened by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
5. Spat at by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
6. Pushed by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
7. Slapped by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
8. Kicked by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
9. Punched by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
10. Others (please state)			**<5**	**5-10**	**10-15**	**15-20**	**>20**

_____

_____

SUPPORT

Now consider the **most distressing incident** you have experienced during your current period of employment. Could you provide a brief description of the incident, and answer the questions below by circling the number that corresponds to the statement most closely reflecting your experience of this type of support.

Description of incident

.....

.....

At the time of the incident,

How supportive did you find: -	**Very unsupportive**	**Quite unsupportive**	**Neither supportive nor unsupportive**	**Quite supportive**	**Very supportive**
1. nursing colleagues	**1**	**2**	**3**	**4**	**5**
2. management	**1**	**2**	**3**	**4**	**5**

In the period after the incident,

How supportive did you find: -	**Very unsupportive**	**Quite unsupportive**	**Neither supportive nor unsupportive**	**Quite supportive**	**Very supportive**
1. nursing colleagues	**1**	**2**	**3**	**4**	**5**
2. management	**1**	**2**	**3**	**4**	**5**

WITNESSING INCIDENTS

Please consider the following incidents.

In your period of employment as a nurse working in psychiatric services for adults, have you within the past few months witnessed these incidents happening to another person (e.g. staff or patient)? : -

(*Other being partner, friend or relative of a patient)

	YES	*NO*	**On approximately how many occasions in the past few months? Please circle**				
1. being shouted at by a patient/other*			**<5**	**5-10**	**10-15**	**15-20**	**>20**
2. being sworn at by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
3. being verbally threatened by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
4. being physically threatened by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
5. being spat at by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
6. being pushed by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
7. being slapped by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
8. being kicked by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
9. being punched by a patient/other			**<5**	**5-10**	**10-15**	**15-20**	**>20**
10. patient harming self			**<5**	**5-10**	**10-15**	**15-20**	**>20**
11. patient attempting suicide			**<5**	**5-10**	**10-15**	**15-20**	**>20**
12. patient committing suicide			**<5**	**5-10**	**10-15**	**15-20**	**>20**
13. Other (please state)							

_____

_____

INJURIES

Have you, as a direct result **of any of these incidents**, suffered from: -

	YES	**NO**	**Please enter the approximate number of occasions in the past few months**
1. minor physical injuries that did not require any medical attention (e.g. bruise, scratch)			**Ghjghjghghhg**
2. physical injuries that did require minor medical attention (e.g. cut, minor muscular/joint injury)			**Ghghghghghg**
3. physical injuries that required full medical attention, but not hospitalisation (e.g. large cut requiring stitching, broken bone, major muscular/joint injury			**Ghghghghghg**
4. physical injuries that required hospitalisation (e.g. surgery, long-term physiotherapy etc)			***Ghghghghghg***
5. minor emotional upset/distress that did not require any treatment			***Ghghghghghg***
6. emotional upset/distress that did require treatment (e.g. medication/counselling/psychotherapy)			Ghghghghghg

IMPACS

Below you will find a list of ten items that some people have reported feeling after they have experienced aggression from patients in their care.

Please read each item and indicate how often you have felt each way after dealing with aggressive patients by **circling the answer that best describes your feelings**. Please note that there are no right or wrong answers, simply say what you feel.

After dealing with patient aggression:

1. I have a 'guilty conscience' towards the patient:

Never *Rarely* *Sometimes* *Often* *Always*

2. I experience a disturbance in the relationship to the patient:

Never *Rarely* *Sometimes* *Often* *Always*

3. I avoid contact with this patient:

Never *Rarely* *Sometimes* *Often* *Always*

4. I feel sorry for the patient:

Never *Rarely* *Sometimes* *Often* *Always*

5. I feel insecure in working with this patient:

Never *Rarely* *Sometimes* *Often* *Always*

6. I feel that I am having to deal with societies problems:

Never *Rarely* *Sometimes* *Often* *Always*

7. I have feelings of anger towards the clinic I am working in:

Never *Rarely* *Sometimes* *Often* *Always*

8. I feel insecure at work:

Never *Rarely* *Sometimes* *Often* *Always*

9. I have feelings of being a failure:

Never *Rarely* *Sometimes* *Often* *Always*

10. I feel ashamed of my work:

Never *Rarely* *Sometimes* *Often* *Always*

THANK YOU FOR TAKING THE TIME TO TAKE PART IN THIS STUDY.

PLEASE RETURN YOUR COMPLETED RESPONSE BOOKLET IN THE ENVELOPE PROVIDED.

APPENDIX D

SPSS OUTPUT FROM EACH MULTIPLE REGRESSION FOR HYPOTHESIS 4

Multiple Regression: Attributions & GHQ

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Baseline Cause Attribution[a]	.	Enter
2	Baseline Control Attribution[a]	.	Enter
3	Baseline Stability Attribution[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: GHQ Total

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.153[a]	.023	.006	4.644	.023	1.347	1	56	.251
2	.203[b]	.041	.007	4.643	.018	1.026	1	55	.315
3	.315[c]	.099	.049	4.542	.058	3.459	1	54	.068

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: GHQ Total

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.048	1	29.048	1.347	.251[a]
	Residual	1207.728	56	21.567		
	Total	1236.776	57			
2	Regression	51.171	2	25.586	1.187	.313[b]
	Residual	1185.604	55	21.556		
	Total	1236.776	57			
3	Regression	122.545	3	40.848	1.980	.128[c]
	Residual	1114.231	54	20.634		
	Total	1236.776	57			

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: GHQ Total

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4.205	1.455		2.891	.005					
	Baseline Cause Attribution	-.410	.353	-.153	-1.161	.251	-.153	-.153	-.153	1.000	1.00
2	(Constant)	5.886	2.206		2.668	.010					
	Baseline Cause Attribution	-.483	.360	-.181	-1.340	.186	-.153	-.178	-.177	.960	1.04
	Baseline Control Attribution	-.383	.378	-.136	-1.013	.315	-.100	-.135	-.134	.960	1.04
3	(Constant)	5.151	2.194		2.348	.023					
	Baseline Cause Attribution	-.567	.355	-.212	-1.595	.117	-.153	-.212	-.206	.945	1.05
	Baseline Control Attribution	-.881	.457	-.314	-1.929	.059	-.100	-.254	-.249	.631	1.58
	Baseline Stability Attribution	.937	.504	.296	1.860	.068	.118	.245	.240	.657	1.52

a. Dependent Variable: GHQ Total

Multiple Regression: Attributions & Emotional Expression sub-scale of MBI-HSS

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Baseline Cause Attribution[a]	.	Enter
2	Baseline Control Attribution[a]	.	Enter
3	Baseline Stability Attribution[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MBI Emotional Expression Total

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.132[a]	.017	.000	7.645	.017	.990	1	56	.324
2	.222[b]	.049	.015	7.588	.032	1.837	1	55	.181
3	.348[c]	.121	.072	7.363	.072	4.420	1	54	.040

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: MBI Emotional Expression Total

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.863	1	57.863	.990	.324[a]
	Residual	3272.913	56	58.445		
	Total	3330.776	57			
2	Regression	163.666	2	81.833	1.421	.250[b]
	Residual	3167.110	55	57.584		
	Total	3330.776	57			
3	Regression	403.295	3	134.432	2.480	.071[c]
	Residual	2927.481	54	54.213		
	Total	3330.776	57			

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: MBI Emotional Expression Total

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	14.491	2.394		6.052	.000					
	Baseline Cause Attribution	-.578	.581	-.132	-.995	.324	-.132	-.132	-.132	1.000	1.00
2	(Constant)	10.815	3.606		3.000	.004					
	Baseline Cause Attribution	-.419	.589	-.095	-.711	.480	-.132	-.095	-.094	.960	1.04
	Baseline Control Attribution	.838	.619	.182	1.356	.181	.201	.180	.178	.960	1.04
3	(Constant)	9.470	3.557		2.663	.010					
	Baseline Cause Attribution	-.573	.576	-.131	-.995	.324	-.132	-.134	-.127	.945	1.05
	Baseline Control Attribution	-.074	.741	-.016	-.099	.921	.201	-.014	-.013	.631	1.58
	Baseline Stability Attribution	1.717	.817	.331	2.102	.040	.324	.275	.268	.657	1.52

a. Dependent Variable: MBI Emotional Expression Total

Multiple Regression: Attributions & Depersonalisation sub-scale of MBI-HSS

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Baseline Cause Attribution[a]	.	Enter
2	Baseline Control Attribution[a]	.	Enter
3	Baseline Stability Attribution[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MBI DePersonalisation Total

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.135[a]	.018	.001	4.495	.018	1.047	1	56	.311
2	.194[b]	.038	.003	4.490	.019	1.108	1	55	.297
3	.228[c]	.052	-.001	4.498	.014	.811	1	54	.372

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: MBI DePersonalisation Total

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.143	1	21.143	1.047	.311[a]
	Residual	1131.357	56	20.203		
	Total	1152.500	57			
2	Regression	43.490	2	21.745	1.078	.347[b]
	Residual	1109.010	55	20.164		
	Total	1152.500	57			
3	Regression	59.898	3	19.966	.987	.406[c]
	Residual	1092.602	54	20.233		
	Total	1152.500	57			

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: MBI DePersonalisation Total

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	5.807	1.408		4.125	.000					
	Baseline Cause Attribution	-.349	.342	-.135	-1.023	.311	-.135	-.135	-.135	1.000	1.00
2	(Constant)	4.118	2.134		1.930	.059					
	Baseline Cause Attribution	-.276	.348	-.107	-.793	.431	-.135	-.106	-.105	.960	1.04
	Baseline Control Attribution	.385	.366	.142	1.053	.297	.164	.141	.139	.960	1.04
3	(Constant)	3.766	2.173		1.733	.089					
	Baseline Cause Attribution	-.316	.352	-.123	-.900	.372	-.135	-.122	-.119	.945	1.05
	Baseline Control Attribution	.147	.452	.054	.324	.747	.164	.044	.043	.631	1.58
	Baseline Stability Attribution	.449	.499	.147	.901	.372	.180	.122	.119	.657	1.52

a. Dependent Variable: MBI DePersonalisation Total

Multiple Regression: Attributions & Personal Accomplishment sub-scale of MBI-HSS

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Baseline Cause Attribution[a]	.	Enter
2	Baseline Control Attribution[a]	.	Enter
3	Baseline Stability Attribution[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: MBI Personal Accomplishment Total

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.062[a]	.004	-.014	6.321	.004	.215	1	56	.645
2	.172[b]	.029	-.006	6.296	.026	1.454	1	55	.233
3	.277[c]	.077	.025	6.198	.047	2.753	1	54	.103

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: MBI Personal Accomplishment Total

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.577	1	8.577	.215	.645[a]
	Residual	2237.647	56	39.958		
	Total	2246.224	57			
2	Regression	66.208	2	33.104	.835	.439[b]
	Residual	2180.017	55	39.637		
	Total	2246.224	57			
3	Regression	171.970	3	57.323	1.492	.227[c]
	Residual	2074.254	54	38.412		
	Total	2246.224	57			

a. Predictors: (Constant), Baseline Cause Attribution

b. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution

c. Predictors: (Constant), Baseline Cause Attribution, Baseline Control Attribution, Baseline Stability Attribution

d. Dependent Variable: MBI Personal Accomplishment Total

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	37.264	1.980		18.822	.000					
	Baseline Cause Attribution	-.223	.480	-.062	-.463	.645	-.062	-.062	-.062	1.000	1.00
2	(Constant)	39.976	2.991		13.364	.000					
	Baseline Cause Attribution	-.340	.488	-.094	-.697	.489	-.062	-.094	-.093	.960	1.04
	Baseline Control Attribution	-.619	.513	-.163	-1.206	.233	-.145	-.160	-.160	.960	1.04
3	(Constant)	40.870	2.994		13.652	.000					
	Baseline Cause Attribution	-.238	.485	-.066	-.491	.625	-.062	-.067	-.064	.945	1.05
	Baseline Control Attribution	-.013	.623	-.003	-.021	.984	-.145	-.003	-.003	.631	1.58
	Baseline Stability Attribution	-1.141	.688	-.268	-1.659	.103	-.269	-.220	-.217	.657	1.52

a. Dependent Variable: MBI Personal Accomplishment Total

APPENDIX E

TABLES 3.7a AND 3.7b: SPEARMAN'S RHO CORRELATION COEFFICIENTS FOR HYPOTHESIS 5

Table 3.7a: Spearman's Rho correlation coefficients for baseline attribution ratings, acceptance and action, general health, burnout, recent exposure to aggression, and impact of patient aggression.

	Locus	**Control**	**Stability**	**AAQ -2**	**MBI EE**	**MBI DP**	**MBI PA**	**GHQ Total**	**IMPACS A**	**IMPACS B**	**IMPACS C**	**IMPACS Total**	**Exposure**
Locus	-	*-.14*	*-.04*	*-.08*	*-.08*	*-.15*	*-.04*	*-.14*	*-.20*	*-.01*	***-.28****	*-.18*	*-.02*
Control		-	***.58****	*.16*	*.11*	***.31****	*-.12*	*-.11*	***.23****	***.32****	***-.30****	***.34****	*.06*
Stability			-	***.22****	***.31****	***.24****	***-.30****	*.04*	***.23****	***.22****	***.28****	***.29****	*-.09*
AAQ-2				-	***.56****	***.47****	***-.25****	***.29****	***.37****	*.05*	*.12*	*.20*	*.12*
MBI EE					-	*.45***	*-.31***	***.28****	***.42****	***.29****	***.33****	***.40****	*.06*
MBI DP						-	*-.32***	*.08*	***.42****	***.31****	***.46****	***.47****	***.29****
MBI PA							-	***-.24****	***-.39****	*-.20*	*-.19*	***-.30****	*-.12*
GHQ Total								-	*.19*	*.05*	*.03*	*.13*	*-.01*
IMPACS A									-	*.67***	*.56***	*.87***	*.04*
IMPACS B										-	*.57***	*.88***	*.06*
IMPACS C											-	*.81***	*.15*
IMPACS Tot												-	*.09*
Exposure													-

* Correlation is significant at p < 0.05 (one-tailed) ** Correlation is significant at p < 0.01 (one-tailed)

Table 3.7b: Spearman's Rho correlation coefficients for general health, acceptance and action, burnout, exposure to aggression sub-scales, and impact of patient aggression.

	GHQ Total	AAQ - 2	MBI EE	MBI DP	MBI PA	EAVS Incidents	EAVS Support	EAVS Witnessed	EAVS Injuries	IMPACS Total	IMPACS A	IMPACS B	IMPACS C
GHQ Total	-	***.29****	***.28****	*.08*	***-.24****	*-.02*	*-.10*	*-.06*	***.35****	*.13*	*.19*	*.05*	*.03*
AAQ – 2		-	***.56****	***.47****	***-.25****	*.05*	*.07*	*.12*	***.31****	*.20*	***.37****	*.05*	*.12*
MBI EE			-	*.45***	***-.31****	*.01*	*-.18*	*.05*	***.32****	***.40****	***.42****	***.29****	***.33****
MBI DP				-	***-.32****	*.17*	*-.13*	***.32****	***.26****	***.47****	***.42****	***.31****	***.46****
MBI PA					-	*-.08*	*.17*	*-.11*	*-.08*	***-.30****	***-.39****	*-.20*	*-.19*
EAVS Incidents						-	*.05*	***.82****	***.28****	*.03*	*-.05*	*.04*	*.08*
EAVS Support							-	*.06*	*.16*	***-.26****	***-.31****	***-.32****	*.01*
EAVS Witnessed								-	***.45****	*.13*	*.07*	*.08*	*.20*
EAVS Injuries									-	*.21*	***.22****	*.18*	*.13*
IMPACS Total										-	*.87***	*.88***	*.81***
IMPACS A											-	*.67***	*.56***
IMPACS B												-	*.57***
IMPACS C													-

* Correlation is significant at $p < 0.05$ ** Correlation is significant at $p < 0.01$ (one-tailed)